

Service Manual

EASA-PHONE
ELECTRONIC MODULAR SWITCHING SYSTEM

KX-T123211

1. Please use this manual together with the service manual for model No. KX-T123210, order No. KM48712591C1.
2. This service manual indicates the main differences between; Original KX-T123210 and KX-T123211.
3. Technical Guide.....Refer to the KX-T123210 Technical Guide.

SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ

CONNECTION\СОЕДИНЕНИЕ

INSTALLATION\УСТАНОВКА

PROGRAMMING\ПРОГРАММИРОВАНИЕ

EXTENSION BOARD CONNECTING METHOD\МЕТОДИКА ПОДСОЕДИНЕНИЯ СЕРВИСНЫХ ПЛАТ

SCHEMATIC DIAGRAMS\ПРИНЦИПИАЛЬНЫЕ СХЕМЫ

VOLTAGE OF IC'S AND TRANSISTORS\НАПРЯЖЕНИЕ НА ИНТЕГРАЛЬНЫХ МИКРОСХЕМАХ И ТРАНЗИСТОРАХ

IC I/O DATA\ДАнные МИКРОСХЕМЫ ВВОДА/ВЫВОДА

ADJUSTMENTS\РЕГУЛИРОВКИ

REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
99-859 Iwaiwa Street
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric
of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

■ SPECIFICATIONS

(General Description)

2. Control Method.....Stored program CPU: 8 bits CPU

4. Power Supplies.....Power Failure

System operation for several hours by recommended battery (car type batteries- consisting of two 12 VDC, 16 amp/hour maximum rating.)

Stored program CPU: 16 bits CPU

Power Failure

System operation for several hours by KX-A26 and recommended battery (car type batteries-consisting of two 12 VDC)

9. EXT Connection.....Cable

2 pair wire	-----
3 pair wire	-----

KX-T30825 (Addition)

KX-T123235 (Addition)

(Characteristics)

1. Station Loop Limit: -----

KX-T123235, KX-T30825 (Addition)

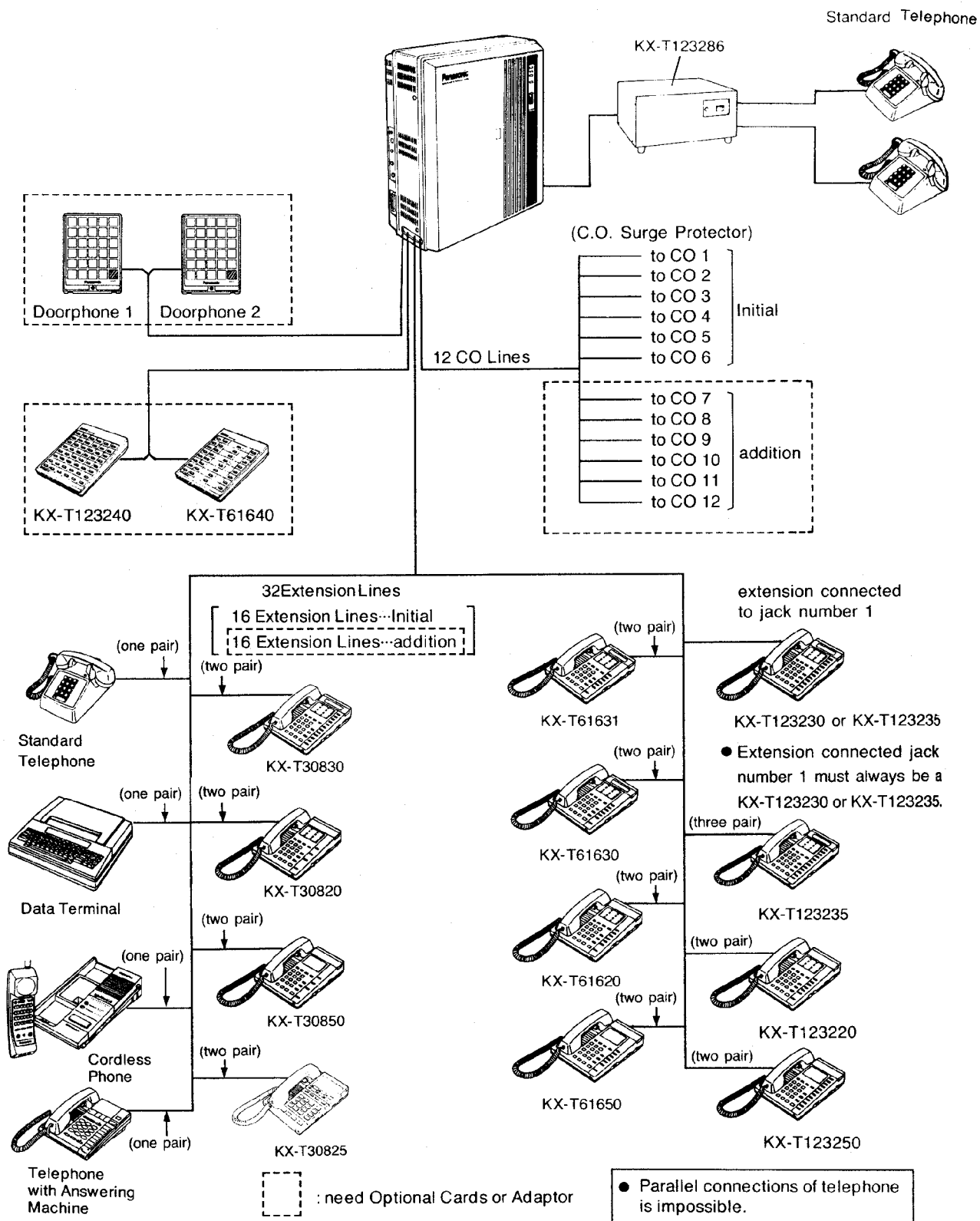
3. Maximum Number of Station Instruments per Line:

KX-T123235, KX-T30825 (Addition)

(Model KX-T123210)

(Model KX-T123211)

■ CONNECTION



(Model KX-T123211)

■ INSTALLATION

1. Model No. KX-T123210 → KX-T123211
2. For details of installation, refer to the Installation Manual (Part No. PQQX5668Z).
3. Printer Connection

Connection Chart:
KX-T123210 RS-232C

Circuit Type (EIA)	Signal Name	Pin No.	Pin No.	Signal Name	Circuit Type (EIA)
AA	FG	1	1	FG	AA
BA	TXD	2	3	RXD	BB
BB	RXD	3	2	TXD	BA
CB	CTS	5	5	CTS	CB
CC	DSR	4,6	20	DTR	CD
AB	SG	7	7	SG	AB
CD	DTR	20	5	CTS	CB
			6	DSR	CC
			8	DCD	CF

(Model KX-T123210)

Connection Chart:
KX-T123211 RS-232C

Circuit Type (EIA)	Signal Name	Pin No.	Pin No.	Signal Name	Circuit Type (EIA)
AA	FG	1	1	FG	AA
BA	TXD	2	3	RXD	BB
BB	RXD	3	2	TXD	BA
CB	CTS	5	5	CTS	CB
CC	DSR	6	20	DTR	CD
AB	SG	7	7	SG	AB
CD	DTR	20	5	CTS	CB
			6	DSR	CC
			8	DCD	CF

(Model KX-T123211)

■ PROGRAMMING

1. Model No. KX-T123210
Model No. KX-T123230



Model No. KX-T123211
Model No. KX-T123230 or KX-T123235

2. PROGRAMMING TABLE
Page 13-17



Deletion
[For details of programming, refer to the Installation Manual (Part No. PQQX5668Z) and EIA/Remote Programming Manual (Part No. PQQX5670Z).]

(Model KX-T123210)

(Model KX-T123211)

■ EXTENSION BOARD CONNECTING METHOD

Extension Board (Part No. PQZZ2T123210)



Extension Board (Part No. PQZZ1T123210)

(Model KX-T123210)

(Model KX-T123211)

OPTIONAL CARD AND EXTENSION BOARD COMPARISON TABLE		
OPTIONAL CARD NO.	EXTENSION BOARD PART NO.	FIG.
KX-T123285 (Off Premise Extension Card)	PQZZ5T123210	A
KX-T123291 (Direct Inward System Access Cards)	PQZZT123291M	B
KX-T123292 (Outgoing Message Card)	PQZZT123291M	B
KX-T123295 (Diagnostic Card)	PQZZ5T123210	A
KX-T123296 (Modem Card)	PQZZ5T123210	A

(Model KX-T123211)

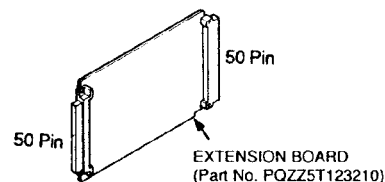


Fig. A

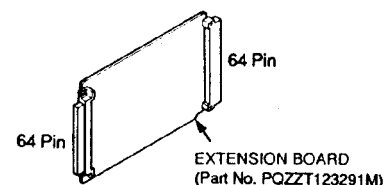


Fig. B

■ SCHEMATIC DIAGRAM

(POWER UNIT)

IC102
Q105, Q209-Q212
D110, D111, D212, D213
PC102
VR101
RL201
C114, C115, C116, C122, C123, C235
R118-R269



Deletion

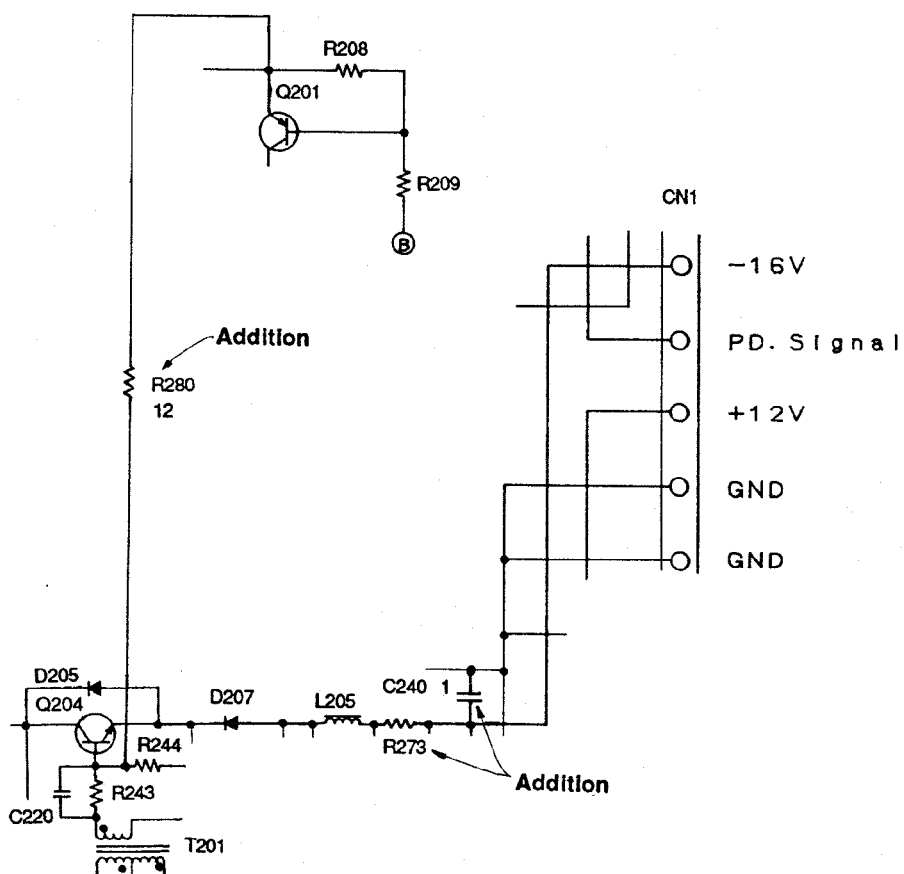
C109 1 μ F (Electrolytic)
R113 2.2k Ω
R204 18k Ω
R277 100 Ω
R260 1.2k Ω



C109 0.1 μ F (Polyester)
R113 3.9k Ω
R204 20k Ω
R277 33 Ω
R260 1k Ω

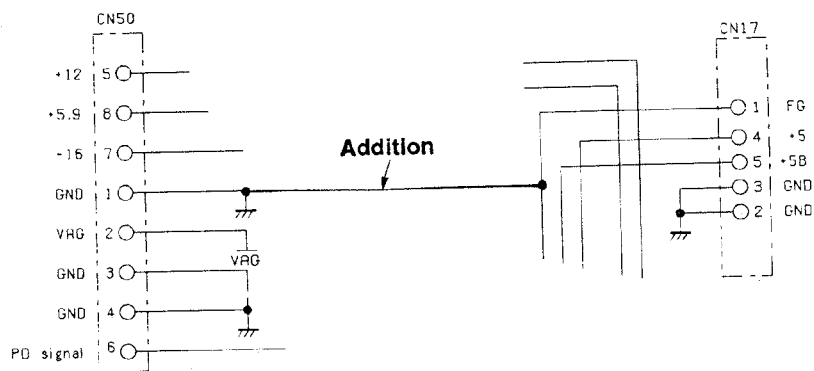
(Model KX-T123210)

(Model KX-T123211)



(Model KX-T123211)

(POWER)



(Model KX-T123211)

ZNR50



Deletion

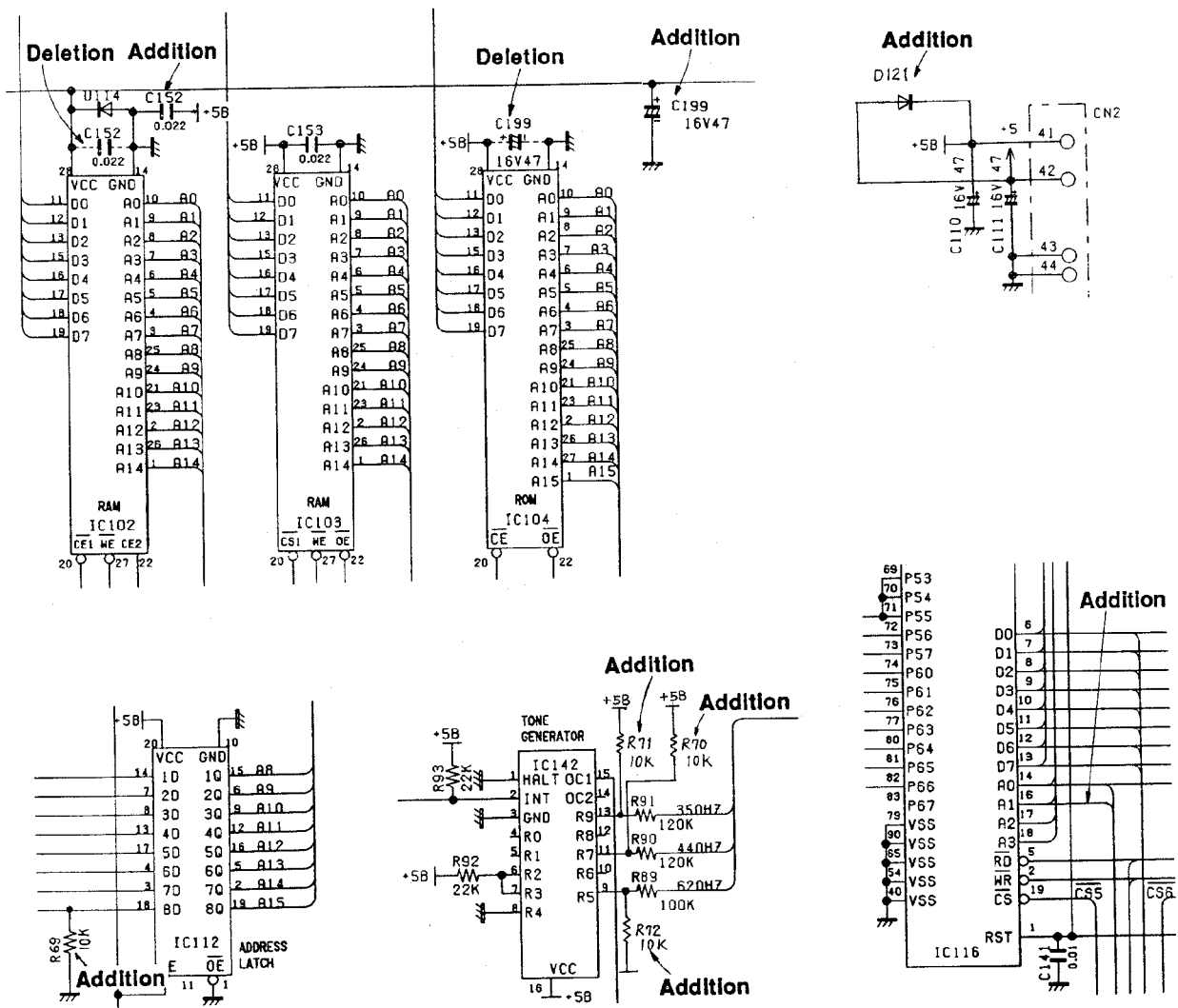
(Model KX-T123210)

(Model KX-T123211)

(CPU)

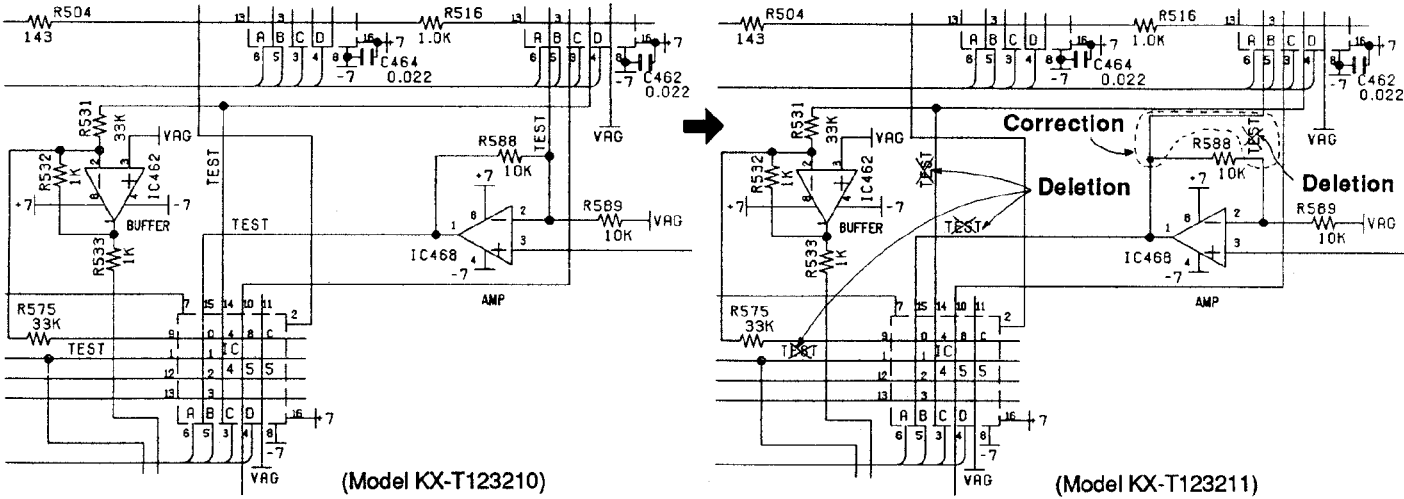
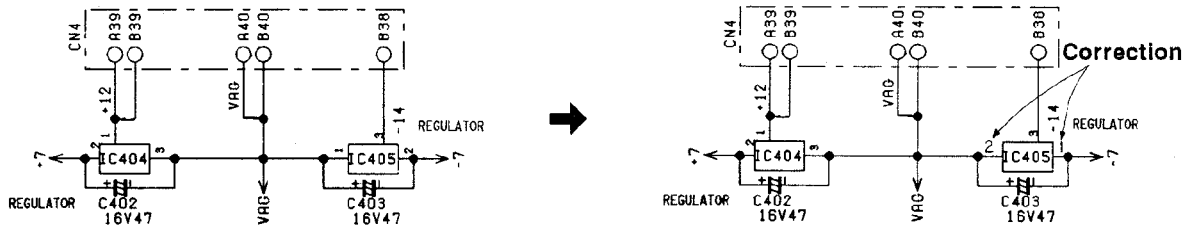
Q106, Q107, D101-D103, R95, R113, R114.....Deletion

(Model KX-T123211)



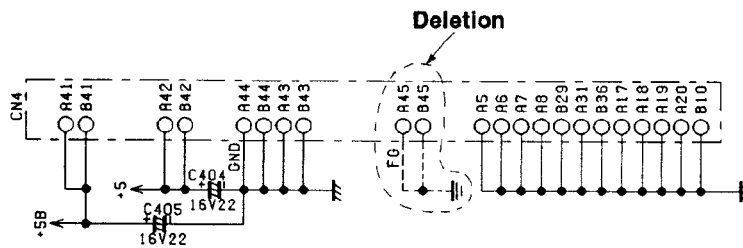
(Model KX-T123211)

(CROSS POINT SWITCH)



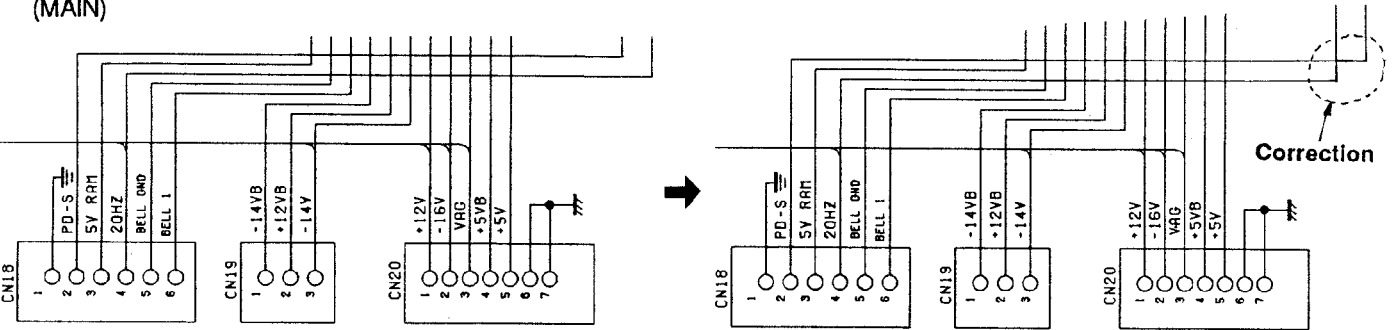
(Model KX-T123210)

(Model KX-T123211)



(Model KX-T123211)

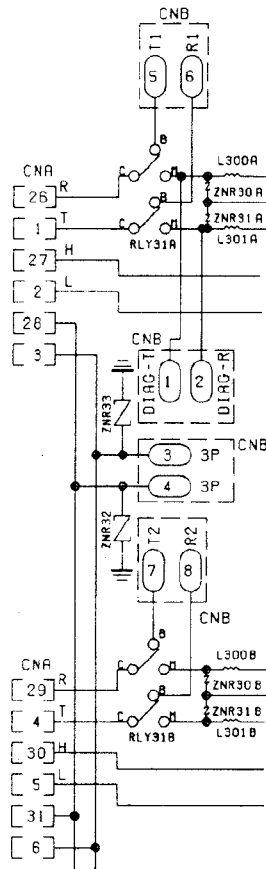
(MAIN)



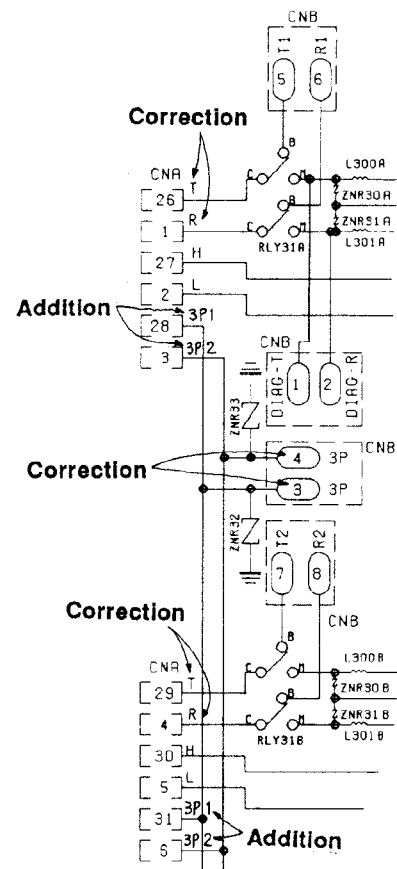
(Model KX-T123210)

(Model KX-T123211)

(LC1,2)

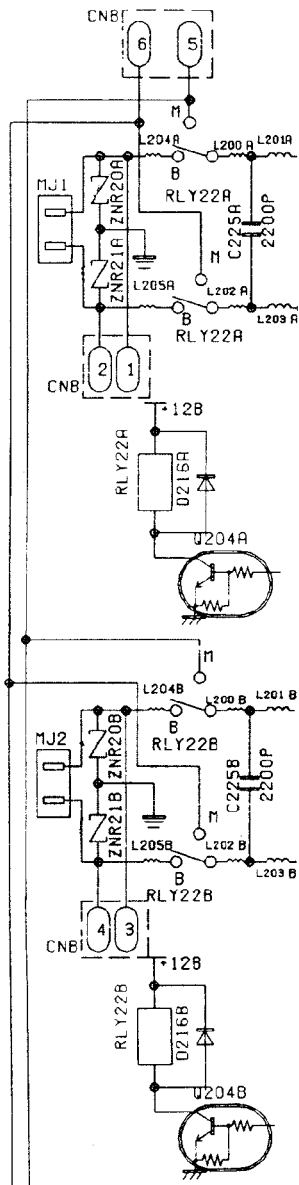


(Model KX-T123210)

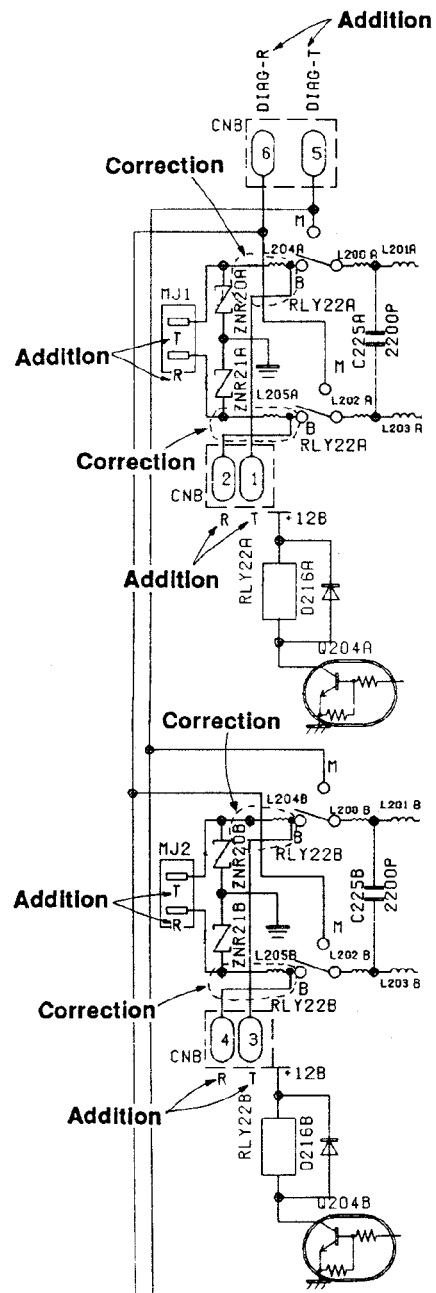


(Model KX-T123211)

(CO-1)

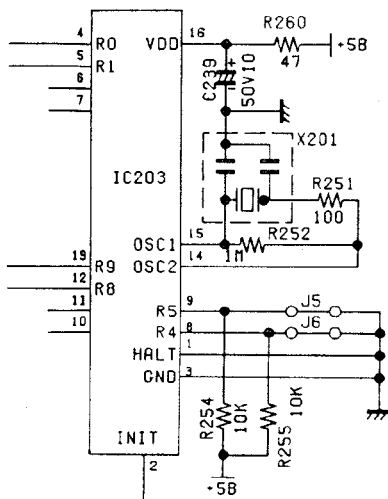


(Model KX-T123210)

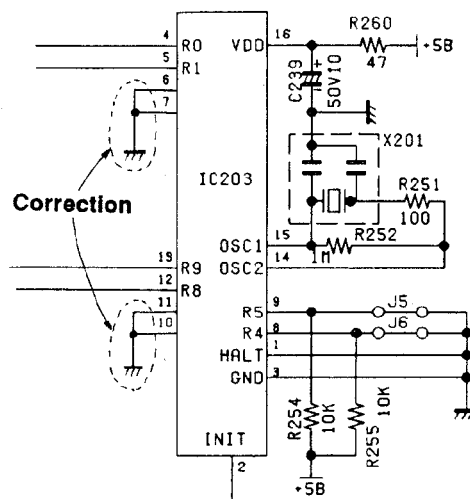


(Model KX-T123211)

(CO-2)

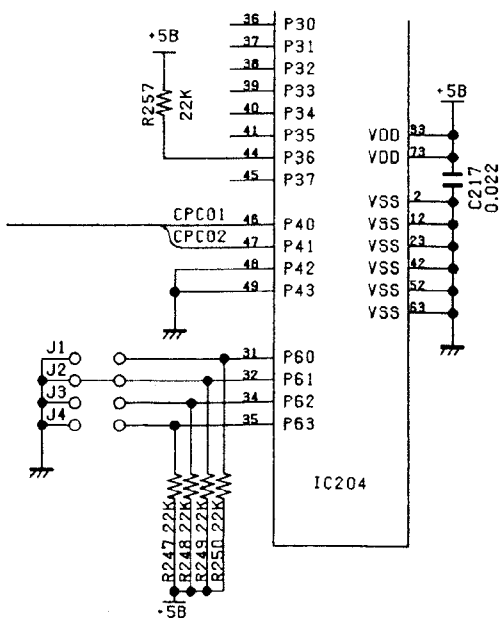
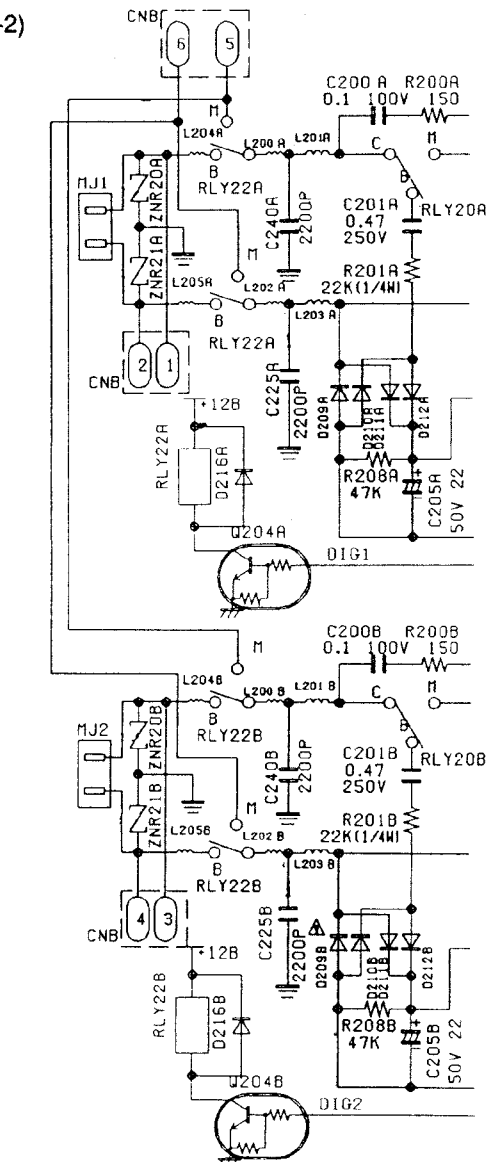


(Model KX-T123210)

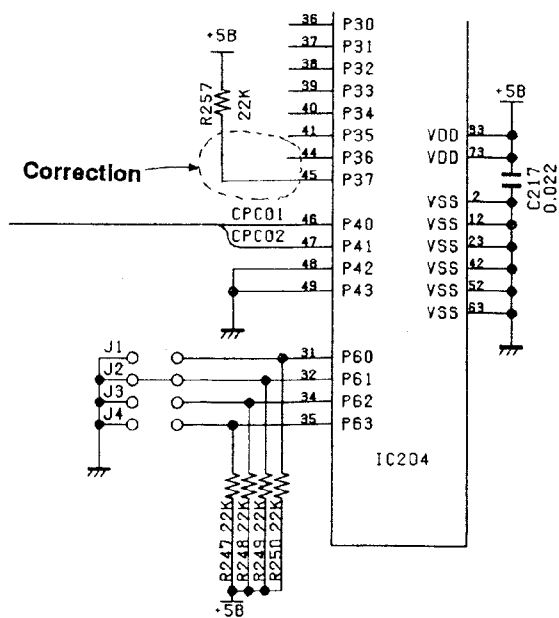
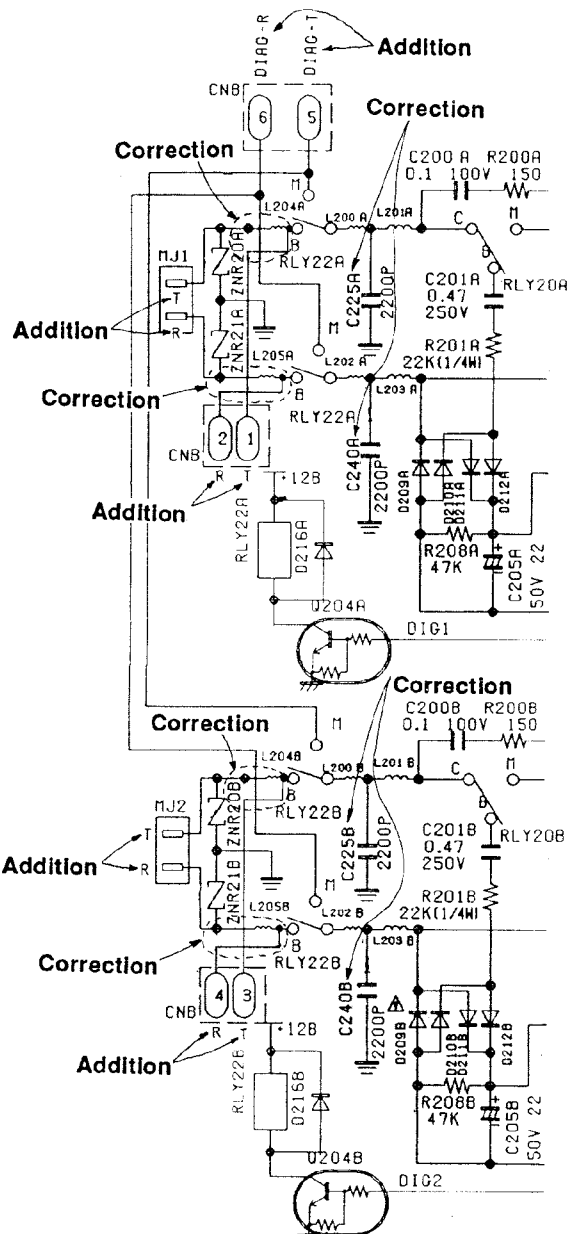


(Model KX-T123211)

(CO-2)

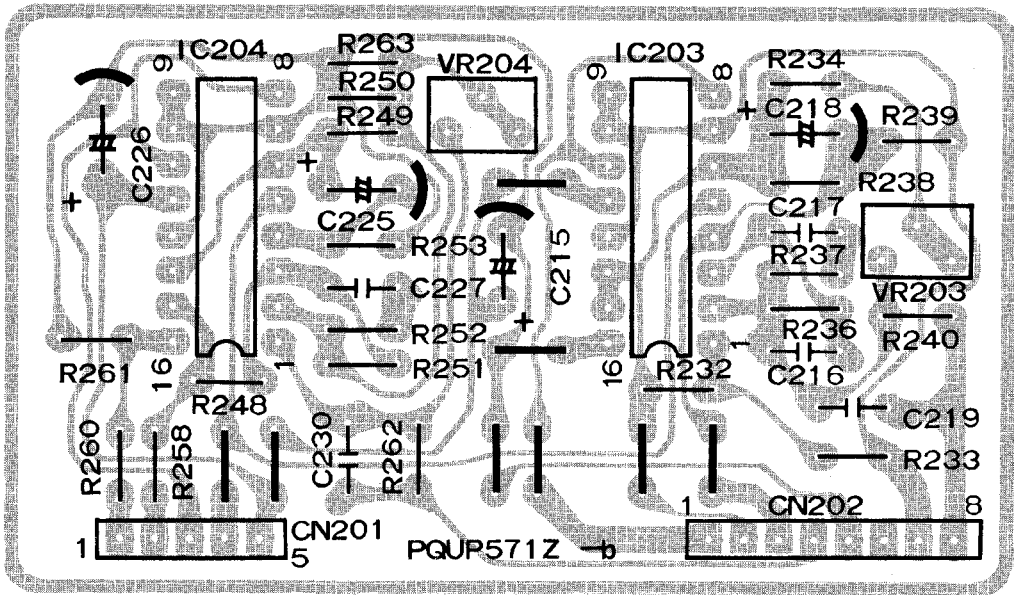


(Model KX-T123210)



(Model KX-T123211)

(COMPONENT VIEW)












(Model KX-T123211)

VOLTAGE OF ICs AND TRANSISTORS

- Notes:
- 1. DC voltage measurements are taken with oscilloscope from ground line.
 - 2. Waiting condition.
 - 3. Value is V.

1. POWER UNIT
(ICs)

Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC202	2.4	2.4	2.4	0	 3 0	4	0	 2	0	0	 2	1	0	0.2	0	0
IC203	2.4	2.4	2.5	2.7	 3 0	5	0	 2	0	0	 2	1	0	5	5	0
IC204	2.4	2.4	2.4	0	 3 0	5	0	 2	0	0	 2	1	0	5	12	12

Pin No.	1	2	3	4	5	6	7	8
IC205	---	---	---	-20	-20	-20	---	5

(TRANSISTORS)






	E	C	B		E	C	B		E	C	B		E	C	B
Q202	1	0	---	Q203	0	1	0	Q207	1	0	---	Q208	0	1	0



2. POWER
(TRANSISTORS)




	E	C	B		E	C	B		E	C	B		E	C	B
Q50	0	12	0	Q51	12	-0.4	12	Q52	0	-20	-0.4	Q53	-20	-0.4	-20


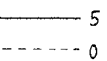

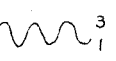
3. CPU

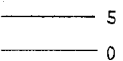

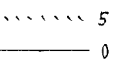
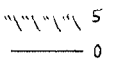
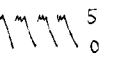
(ICs)



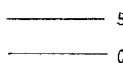

Pin No.	2	3-16,25,28,29,32,35-39	18,21	19	22	24
IC100			0			



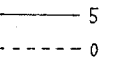
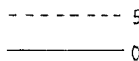
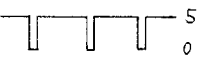
Pin No.	2-15, 17-21, 23, 25-29	22	24
IC101		5	



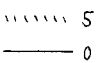
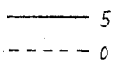
Pin No.	1-13, 15-19, 21, 23-27	22	IC102, IC103 pin 27
IC102 IC103 IC104			




Pin No.	2, 8, 12	4, 5	7	10, 13	11	16	17
IC105			5	0	5		

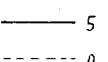
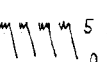
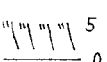
Pin No.	1	2-9	11, 12	13, 16, 17	14, 18	19
IC106						5

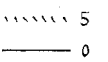
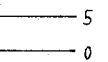
Pin No.	1-9, 11-18	19	Pin No.	2, 10, 12, 15	3, 4, 9, 11, 13, 14,
IC107			IC108		

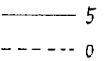
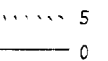
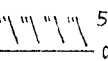
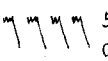
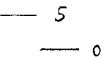
Pin No.	1-9, 11, 12, 14-18	13	19	Pin No.	2, 4	3, 5, 7, 9, 11, 13, 15-18
IC109				IC110		

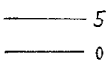
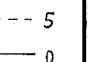
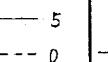


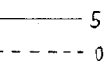
Pin No.	2-9, 11-19	Pin No.	1-4, 9	5	6, 7	14, 15
IC111 IC112		IC113			5	





Pin No.	1-6	9, 10, 11, 13, 14, 15	Pin No.	1, 3, 5, 7-11, 13, 14, 15, 17, 18-23
IC114			IC115	




Pin No.	1,20,23,24,30-37,46,51,66,67,68,82,98,99,100	2, 5, 19	6, 10	7, 8, 11
IC116	0			


Pin No.	12, 13	14,16,17,18	22,25,26,47-50,52,57-64,69-77,80-81,84-89,91,92,97
IC116			5





Pin No.	1, 2, 3	4, 5	6, 9, 10	7, 11	16,20,21,23,25	17,18,19,24	22
IC117					5	0	




Pin No.	27	Pin NO.	1, 4	2, 13	12	Pin NO.	1-6	9-15
IC117		IC118				IC119		

Pin No.	1, 2	3, 6, 7	4, 8	9, 15	10, 18	13	17	19, 20	21, 22, 23
IC120	 5 0	 5 0	 5 0	 5 0	5 0	5 0	5	5 0	5 0


Pin No.	1, 6	3	5	7, 8	9, 12, 25	10, 11, 13	14, 15, 21, 24	17,19	22
IC121	 5 0	5	 5 0	 5 0	5 0	5 0	0	5	5


Pin No.	3,4,5,9,11-14	7	16
IC122	5	5 0	 5 0


Pin No.	1-4	7	8	10	11	12, 13	15, 16, 17
IC123 IC125	2	 4 0	 4 1	5 0	 5 0	 5 0	0



Pin No.	1, 2, 3, 15	4-7	8, 10	12, 13	14	16	17
IC127	5	5 0	5 0	 5 0	 5 0	2	 4 1




Pin No.	1, 3	2	Pin No.	1,2,3,5,6,7	Pin No.	2	3, 6	4, 5	8, 11	9,10,12,13
IC129	5	0	IC131	0	IC132	2	---	5	12	0




Pin No.	1,4,7,10,13	3,6,8,11,14	Pin No.	1, 3, 14	2, 7	4,5,6,8,9,10
IC133	0	5	IC134	5	0	 5 0

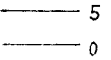
Pin No.	1, 11, 12	2, 3, 13	4, 10	5, 8	6, 9
IC135	5	0	5 0	 5 0	5 0



Pin No.	1,2,6,9,10,13,14	3, 7, 8	4	5, 12	11
IC136	5	0	 5 0	5 0	5 0

Pin No.	2, 7, 9	3, 11, 13	5	6	14, 18
IC137	0	5 0	 4 1	 5 1	5

Pin No.	1,3,6,7,8	2, 10, 14	4	5	9, 11	12	13
IC138	0	5	 5	1	4	 3 0	 5 0

Pin No.	1	2	3	4	5, 6	8, 12	9, 13
IC139	 5 0	 5 0	5	0	 5 0	5 0	5 0

Pin No.	1, 4, 5, 7, 13	2,3,10,12,14	8, 9	11
IC140	0	5	 5 0	0.2

Pin No.	1,3	2	Pin No.	2	6, 7	9, 11, 13	15
IC141	5	0	IC142	0	5	 5 0	 5 0

(TRANSISTORS)



	E	C	B		E	C	B		E	C	B		E	C	B
Q100	0	5	0	Q101	0	11	0	Q102	0	11	0	Q103	0	0	5



	E	C	B		E	C	B		E	C	B		E	C	B
Q105	0	0.2	12	Q108	5	0	5	Q109	5	0	5	Q110	0	0	5




	E	C	B
Q111	12	12	0



4. CROSS POINT SWITCH

(ICs)

Pin No.	1-4,25,35,37-40	5, 6, 36	8, 9	12-24	27-34
IC400	0	 4.2 0	 4 0	5	0.2

Pin No.	1-6, 8, 9, 19	7	11-18
IC401	 5 0	 4 0	0.2

Pin No.	1, 3	2, 4	5	6,7,8,10,12	9	11, 13, 14
IC402	 5 0	 4 0	 5	0	0.6	5

Pin No.	1,4,9,10,13,15	2	3, 6	7	8
IC403	5	 5 0	 4.2 0	0	4

Pin No.	1-6	11-16	Pin No.	1, 2	3-6	11-16	Pin No.	1, 2, 3	4	5, 6	11-16
IC406	0	-7	IC407	0	5	-7	IC408	5	0	5	-7

Pin No.	1,2,3	4	5	6	11-16	Pin No.	1,2,12,13-21	3,22	4-9
IC409	5	0	4	0	-7	IC410 IC437	0	7	6

Pin No.	2,17,18,20,21	3	4-9	Pin No.	1, 9-15	2-6	Pin No.	1,7,10-15	2-9
IC438 IC445	0	7	6	IC447 IC451 IC448 IC453 IC450 IC454	0	6	IC456	0	6

Pin No.	1,2,3,5,6,7	Pin No.	1-4,8,9,11	5	6, 12	10	13
IC461 IC466	0	IC467	4	4	-7	5	6.4



(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q400	---	7	0	Q401	0	0	---	Q402	4	7	5	Q404	5	5	0

5. LC1,2

(ICs)

Pin No.	1,3,5,17	4,19,21,22,34-41,43-50,73	6-11	13	14,16,24-31,51,53,64,65,80	15	20
IC300	4	5	0.2	4.2	0	4.2	1

Pin No.	75	76
IC300		

Pin No.	1,3,4,6,8,9,11,13	2,5,10,12	Pin No.	1,2,3,5-9,11,19	4,12	13-18
IC301			IC303	5	4	0.2
IC302	0	5				

Pin No.	1,3,9	2,4,5,8,11,12	6, 10	13	Pin No.	3-9,11,13,15	12,14,16,17
IC304	5	0	4.2	1	IC305	5	4

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B		E	C	B
Q300A				Q301A				Q302A	-14	---	-14	Q303A	-14	-14	-14
Q300H	12	12	12	Q301H	12	12	12	Q302H				Q303H			


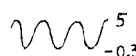
	E	C	B		E	C	B		E	C	B		E	C	B
Q304A	---	5	---	Q305A	0	5	0	Q306A	5	0	5	Q307A	0	12	0
Q304H				Q305H				Q306H				Q307H			




	E	C	B		E	C	B
Q311A	0	12	5	Q312A	12	0	12
Q311B				Q312B			




6. CO-1,2



(ICs)




Pin No.	1,2,3,5,6,7	Pin No.	1, 9, 16	2,3,6,7,8,10,11,14,15
IC200A IC201A	0	IC202A	5	0
IC200D IC201D		IC202D		

Pin No.	1,2,3,8,9,12,13	4, 5, 16	14	15
IC203	0	5		

Pin No.	1,6,7,8,10,15 16,17,19,46,47	4,5,9,11,13,14,18,19,30,31 32,34,35,45,70,71,72,74,75	65, 66, 67	68, 69, 76	77-80
IC204	0	5	 4.5 0	 5 0	 4 0

Pin No.	1	2-6,8,9	7	11, 17, 18	12-16
IC205	 5 0.4	 5 0	——— 4 ----- 0.4	 5 0	0

Pin No.	1, 4, 10	2, 5, 9	3, 6, 8	11, 12, 13
IC206	5	 5 0.4	 4.5 0	0

Pin No.	1,3,5,11	2,4,6,10	8	12	13
IC207	 5 0	 4 0	5	0	 5

(TRANSISTORS)

	E	C	B		E	C	B		E	C	B
Q202A				Q203A				Q204A			
	0	12	0		0	12	0		0	12	0
Q202D				Q203D				Q204D			

■ IC/I/O DATA

Explanation of ICs (Addition)

1. IC116 This IC is for 8-bit expansion I/O ports and has nine 8-bit general-purpose I/O ports.
2. IC104 This IC is for 8-bit expansion I/O ports and has six 8-bit general-purpose I/O ports and one 4-bit input port.
3. IC300 This IC has:
 - (1) one 8-bit input port
 - (2) one 8-bit output port
 - (3) 8-channel input and output ports for extension data communication
 - (4) 4 output ports (BR0—BR3) for noise control for the doorphone 2 channel and the external paging 2 channel..
4. IC400 This 8255-byte IC is used in the extended I/O mode (mode 0).

■ **ADJUSTMENT (Model KX-T123211)**

OSCILLATION PERIOD ADJUSTMENT

Perform the following adjustment after replacing IC127.

1. Attach the Diagnostic Card (Model KX-T123295) at the KX-T123211. (See Fig. 33)
2. Connect the AC cord to the AC outlet (AC 120V, 60Hz).
3. Set the Power Switch to ON.
4. Set the System Program Switch to "EIA" position. (See Fig. 31)
(After adjustment, return the System Program Switch to "SET" position.)
5. Reciprocal light the Day and Night Indicators.
6. Connect the KX-T123211 and Personal Computer (or Data Terminal) by RS-232C cable.
7. Press the Data Key of the Personal Computer (or Data Terminal).

8.

```
; Welcome to KX-T123211 on-site administration
;                               ver 2.0 Panasonic CO., LTD

; ** Jan. 1. 1988 12:00' AM **

; The "HLP" display command informations

; > DIG
```

Picture of Personal Computer
(or Print of Data Terminal)

9. Input the DIG and press the Return Key.

10.

```
; > DIG

; Diagnostic mode start

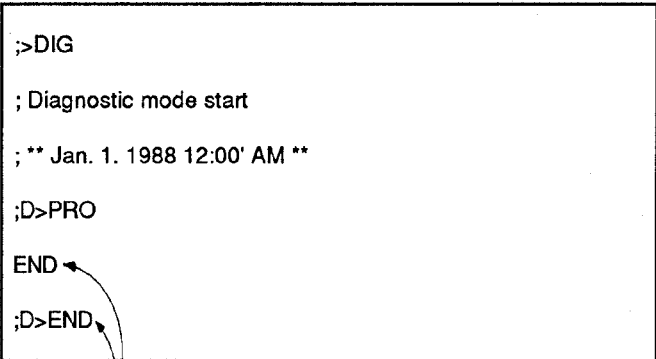
; ** Jan. 1. 1988 12:00' AM **

; D> PRO
```

Picture of Personal Computer
(or Print of Data Terminal)

11. Input the PRO and press the Return Key.
12. Connect the frequency counter. (See Fig. 32)
13. Set the frequency counter to "PERIOD" position.
14. Adjust VC100 for a reading of () msec on the frequency counter.

Room temperature for adjusting (°C)	Period value (msec)	Room temperature for adjusting (°C)	Period value (msec)
14~14.9	15.624943 (±0.00001)	20~20.9	15.624880 (±0.00001)
15~15.9	15.624933 (±0.00001)	21~21.9	15.624876 (±0.00001)
16~16.9	15.624922 (±0.00001)	22~27.9	15.624870 (±0.00001)
17~17.9	15.624910 (±0.00001)	28~28.9	15.624876 (±0.00001)
18~18.9	15.624899 (±0.00001)	29~29.9	15.624880 (±0.00001)
19~19.9	15.624888 (±0.00001)		

15. 

```

>DIG
; Diagnostic mode start
; ** Jan. 1. 1988 12:00' AM **
;D>PRO
END
;D>END

```

Picture of Personal Computer
(or Print of Data Terminal)

16. Input the END and press the Return Key.

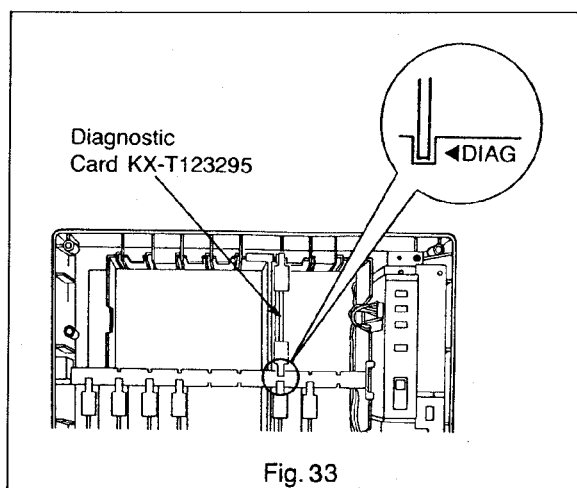
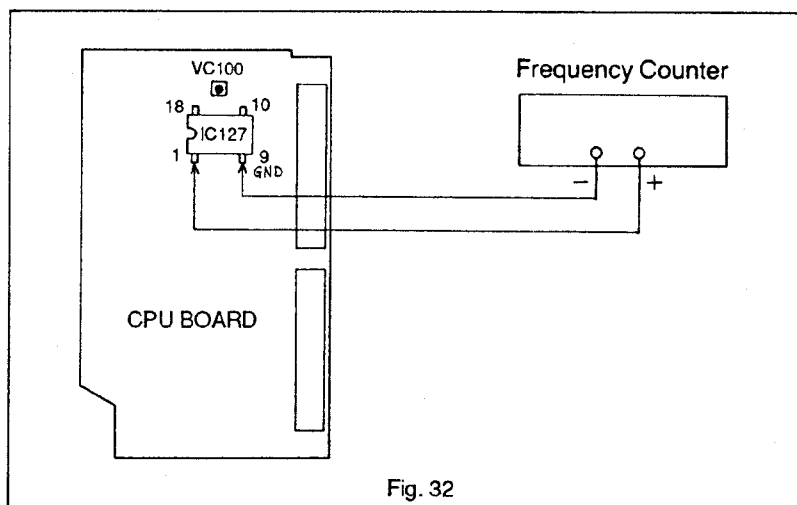
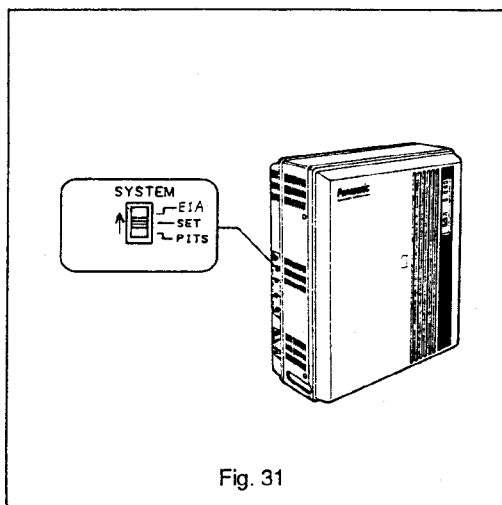
Notes: RS-232C

(Default Parameter)

1) Baud Rate: 1200 bps 2) Data Length: 7 bits 3) Stop Bit: 1 stop 4) Parity: Mark

However, this can be changed by programming. If it has been changed, follow the procedures according to the changes or execute "System All Clear".

Refer to the connection chart on page 3 for the connection of the RS-232C connector.



REPLACEMENT PARTS LIST

Model KX-T123211

Notes:

- The * mark indicates the changes from the KX-T123210.
- Printed circuit board assembly and power unit with mark (NLA) is no longer available after production discontinuation of the complete set.
- Important safety notice.
Components identified by the Δ mark special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- The S mark indicates service standard parts and may differ from production parts.
- RESISTORS & CAPACITORS
Unless otherwise specified.
All resistors are in ohms (Ω) k=1000 Ω , M=1000k Ω
All capacitors are in MICRO FARADS (μ F) P= μ F
*Type & Wattage of Resistor

Type

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ER0:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W
---------------	---------------	---------------	------	------	------

*Type & Voltage of Capacitor

Type

ECFD:Semi-Conductor	ECQD,ECKD,PQCB, PQVP : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V	05:50V	OF:3.15V	CJ :6.3V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		QJ:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
CABINET & ELECTRICAL PARTS			
K1	PQYFT123210M	Front Cabinet Assembly	1
K2	PQYMT123211M	Cabinet Body Assembly	1
K2-1	PQGT404Z	Name Plate	1
K3	PQYUT123210M	Rear Cover Assembly	1
K4	PQGG52Z	LED Grille	1
K5	PQK54Z	Indication Plate	1
K6	PQUV66Z	Cover	1
E1	P-01H-F2G1	Ni-Cd Battery	1
E2	PQLT1U9M1A	Bell Transformer	1
E3	RME143Z	Cord Band	3
E4	RME144Z	Cord Band	2

ACCESSORIES AND PACKING MATERIALS

A1	PQHE17Z	Mounting Bracket (Curl Plug)	3
A2	PQHE5014Z	Mounting Bracket (Screw)	3
A3	PQQX5668Z	Installation Manual	1
A4	PQQX5669Z	User Guide	1
A5	PQQX5670Z	EIA/Remote Programming Manual	1
A6	PQQX9266Z	Additional Features for Original	1
		Operating Instructions	
A7	PQQX9267Z	Station User Guide	1
A8	PQHR133Z	Band	2
A9	XSN4x40+28FY	Screw	4
P1	PQPK649Z	Packing Case	1
P2	PQPN9039Z	Pad Complete	1
P3	PQPE101Z	Pad	1
P4	PQPP118Z	Protection Cover (for Unit)	1

Ref. No.	Part No.	Part Name & Description	Pcs
MAIN BOARD PARTS			
PCB1	PQWP1T123210	Main P.C. Board Ass'y (NLA)	1
		(DIODES)	
D10,13	LN220RPH	LED	2
D11	LN420YPH	LED	1
D12	LN320GPH	LED	1
		(TRANSFORMERS & COILS)	
T1,2,3	PQLT2D6B	Transformer	3
L1,2,4, L5,7-9, L11,13 L3,6	PQLQZM2R2M	Choke Coil	9
	PQLQZM4R7K	Choke Coil	S 2
		(SWITCHES)	
SW	EVQJH12T	Switch, Reset	1
SW	PQSS3A14Z	Switch, Mode	1
		(RESISTORS)	
R1-14	ERD16TJ103	10k	14
R15-17	ERD16TJ821	820	3
R19-22	ERD16TJ821	820	4
		(JACKS & CONNECTORS)	
JA1,2	PQJ1E1Y	Jack, Paging	2
JA3	RJ19Y	Jack, Earphone	1
CN1-3, 6A-6D, 8A-8C	PQJS45S30Z	Connector, 45P	10
CN4	PQJS90S30Z	Connector, 90P	1
CN5A- 5D,7A- 7C	PQJS8S32Z	Connector, 8P	7
CN9, 10A, 10B,11	PQJS64S30Z	Connector, 64P	4
CN12- CN15	PQJS50S33Z	Connector, 50P	4
CN16	PQJS5R31Z	Connector, 5P	S 1
CN17	PQJS5R32Z	Connector, 5P	1
CN18	PQJS6R31Z	Connector, 6P	1
CN19, CN20	PQJS10R31Z	Connector, 10P	2
CN21	PQJS25P31Z	Socket, EIA	1
CN22	PQJS2L44Z	Connector, 2P	1
J26	PQJP5D13Z	Connector, 5P	1
CPU BOARD PARTS			
PCB2	PQWP2T123211	CPU P.C. Board Ass'y (NLA)	1
		(ICs)	
IC100	PQVIMS80C88	IC	1
IC101/	PQWIT123211M	IC (ROM Kit)	1
IC104			
IC102	PQVIPD43257C	IC	S 1
IC103	PQVIHM62256L	IC	S 1
IC105	PQVIMS8C84A2	IC	S 1
IC106	PQVIM7H245P	IC	1
IC107	PQVIM7H245P	IC	1
IC108	PQVIM7H174P	IC	1
IC109	PQVIHD7L640P	IC	1
IC110	PQVIHD7L240P	IC	1
IC111	PQVIM7H373P	IC	1
IC112	PQVIM7H373P	IC	1
IC113	PQVIM7H137P	IC	1
IC114	PQVIHD7L138P	IC	1
IC115	PQVIHD7L154P	IC	1
IC116	PQVI63HB110	IC	1
IC117	PQVIMS8C59A2	IC	S 1
IC118	PQVIM7H107P	IC	1
IC119	PQVITC7H138P	IC	S 1
IC120	PQVIPD71054C	IC	S 1
IC121	PQVIPD71051C	IC	S 1

Ref. No.	Part No.	Part Name & Description	Pcs	Ref. No.	Part No.	Value	Pcs
IC122	PQVILR4089	IC	1	R68	ERD16TJ220	22	1
IC123	PQVIMT8870BC	IC	3	R69-72	ERD16TJ103	10k	4
IC124				R73	ERD16TJ101	100	1
IC125				R74	ERD16TJ221	220	1
IC126	Not Used			R75-77	ERD16TJ151	150	3
IC127	PQVIMS6242BS	IC	1	R78	ERD16TJ101	100	1
IC128	Not Used			R79-88	ERD16TJ103	10k	10
IC129	PQVIPSS20C	IC	1	R89	ERD16TJ104	100k	3
IC130	Not Used			R90,91	ERD16TJ124	120k	2
IC131	PQVINJM4558D	IC	1	R92,93	ERD16TJ223	22k	2
IC132	PQVIHD75188P	IC	1	R94	ERD16TJ103	10k	1
IC133	PQVIHD75189P	IC	1	R95	Not Used		
IC134	PQVIM7H32P	IC	1	R96	ERD16TJ103	10k	1
IC135	PQVIM7H02P	IC	1	R97	Not Used		
IC136	PQVITC7H00P	IC	S 1	R98,99	ERD16TJ103	10k	2
IC137	PQVITC7H04P	IC	S 1	R100	ERD16TJ683	68k	1
IC138	PQVIHD7LS04P	IC	1	R101	ERD16TJ103	10k	1
IC139	PQVITC7H04P	IC	S 1	R102	ERD16TJ103	10k	1
IC140	PQVITC7H04P	IC	S 1	R103-	ERD16TJ102	1k	4
IC141	PQVIPSS20C	IC	1	R106			
IC142	PQVIBU3140	IC	1	R107	ERD16TJ103	10k	1
		(TRANSISTORS)		R108	ERD16TJ103	10k	1
Q100-	DTC124EA	Transistor (Si)	4	R109	ERD16TJ471	470	1
Q103				R110	ERD16TJ472	4.7k	1
Q104	Not Used			R111	ERD16TJ223	22k	1
Q105	2SC2021	Transistor (Si)	1	R112	ERD16TJ683	68k	1
Q106	Not Used			R113	Not Used		
Q107	Not Used			R114	Not Used		
Q108	DTA124EA	Transistor (Si)	1	R115	ERD16TJ223	22k	1
Q109	DTA124EA	Transistor (Si)	1	R116-	ERD16TJ103	10k	4
Q110	DTC124EA	Transistor (Si)	1	R119			
Q111	DTA143XA	Transistor (Si)	1	R120-	ERD16TJ223	22k	3
		(DIODES)		R122			
D100	MA4091	Diode (Si)	1	R123-	ERD16TJ103	10k	18
D101	Not Used			R140			
D102,	Not Used			R141-	ERD16TJ102	1k	6
103				R146			
D104	1SS131	Diode (Si)	1	R147-	ERD16TJ103	10k	6
D105	Not Used			R152			
D106	Not Used			R153-	ERD16TJ102	1k	4
D107-	1SS131	Diode (Si)	9	R156			
D115				R157-	ERD16TJ103	10k	3
D116	Not Used			R159			
D117-	1SS131	Diode (Si)	5	R160-	ERD16TJ183	18k	4
D121				R163			
VD100	PQVD1SV124	Diode (Si)	1	R164	ERD16TJ103	10k	1
		(TRIMMER)		R165	ERD16TJ184	18k	1
VC100	PQCVTZB30B	Trimmer	1	R166	ERD16TJ183	18k	1
		(COMPONENT COMBINATIONS)		R167	ERD16TJ394	390k	1
CA101	PQXF4WB04	Capacitor Array	1	R168	ERD16TJ103	10k	1
Z108	EXBP84103K	Resistor Array	S 1	R169	ERD16TJ183	18k	1
		(CRYSTAL OSCILLATORS)		R170	ERD16TJ103	10k	1
X100	PQWET123210M	Crystal Oscillator Assembly	1	R171	ERD16TJ333	33k	1
X101	Not Used			R172-	ERD16TJ103	10k	4
X102	PQVCX3579H5R	Crystal Oscillator	1	R175			
X103	PQVCL3276N4Z	Crystal Oscillator	1	R176	ERD16TJ154	150k	1
		(THERMISTERS)		R177	ERD16TJ105	1M	1
TH100	PQRRTS104U	Thermister	1	R178	ERD16TJ223	22k	1
TH101	PQRRTS203U	Thermister	1	R179	ERD16TJ223	22k	1
		(COILS)		R180	ERD16TJ472	4.7k	1
L100-	PQLQZM1R5M	Choke Coil	4	R181	ERD16TJ104	100k	1
L103				R182	ERD16TJ333	33k	1
L104	PQLQZM2R2M	Choke Coil	1	R183	ERD16TJ334	330k	1
L105	PQLQZM2R2M	Choke Coil	1	R184	ERD16TJ104	100k	1
				R185	ERD16TJ333	33k	1
				R186	ERD16TJ334	330k	1
				R187	ERD16TJ104	100k	1
				R188	ERD16TJ333	33k	1
				R189	ERD16TJ334	330k	1
				R190-	ERD16TJ103	10k	10
				R199			

Ref. No.	Part No.	Value, Part Name & Description	Pcs	Ref. No.	Part No.	Value, Part Name & Description	Pcs
(CAPACITORS)				CROSS POINT SWITCH BOARD PARTS			
C100	ECEA1HU4R7	4.7	1	PCB3	PQWP3T123210	Cross Point Switch P.C. Board Ass'y (NLA)	1
C101	ECEA1HU100	10	S 1	(ICs)			
C102	Not Used			IC400	PQVIPD71055C	IC	S 1
C103	ECEA1HU100	10	S 1	IC401	PQVIHD7L640P	IC	1
C104	ECEA1HU100	10	S 1	IC402	PQVIHD7LS04P	IC	1
C105	ECEA1CSS102	1000	1	IC403	PQVIHD7LS08P	IC	1
C106	ECEA1HN3R3S	3.3	1	IC404	AN78L07	IC	1
C107-	ECEA1HU100	10	S 3	IC405	AN79L07	IC	1
C109				IC406-	PQVITD62706P	IC	4
C110	ECEA1EU470	47	S 1	IC409			
C111	ECEA1EU470	47	S 1	IC410-	PQVIM402101P	IC	36
C112-	Not Used			IC445			
C119				IC446	Not Used		
C120	ECQV1H104JZ	0.1	1	IC447	PQVIPD22100C	IC	S 1
C121	ECQV1H104JZ	0.1	1	IC448	PQVIPD22100C	IC	S 1
C122	Not Used			IC449	Not Used		
C123	Not Used			IC450	PQVIPD22100C	IC	S 1
C124	ECCD1H150JC	150P	1	IC451	PQVIPD22100C	IC	S 1
C125	ECCD1H150JC	150P	1	IC452	Not Used		
C126	Not Used			IC453-	PQVIPD22100C	IC	S 4
C127	Not Used			IC456			
C128	Not Used			IC457-	Not Used		
C129	ECQM1H472JV	0.0047	1	IC460			
C130	ECFD1C104KD	0.1	1	IC461-	PQVINJM4558D	IC	6
C131	ECQV1H104JZ	0.1	1	IC466			
C132	ECFD1C104KD	0.1	1	IC467	PQVIPD4066BC	IC	S 1
C133	ECQV1H104JZ	0.1	1	IC468	PQVINJM4558D	IC	1
C134	ECFD1C104KD	0.1	1	IC469	PQVINJM4558D	IC	1
C135	ECQV1H104JZ	0.1	1	(TRANSISTORS)			
C136	Not Used			Q400	2SC2021	Transistor (Si)	1
C137	Not Used			Q401	2SC2878	Transistor (Si)	1
C138	ECFD1C104KD	0.1	1	Q402	DTC124EA	Transistor (Si)	1
C139	ECKD1H103KB	0.01	1	Q403	Not Used	Transistor (Si)	
C140	Not Used			Q404	DTA124EA	Transistor (Si)	1
C141	ECKD1H103KB	0.01	1	(DIODES)			
C142	ECKD1H102JA	0.001	1	D400-	1SS131	Diode (Si)	36
C143	ECKD1H102JA	0.001	1	D435			
C144-	Not Used			D436	MA4047	Diode (Si)	1
C149				D437	MA4047	Diode (Si)	1
C150-	ECKD1H223MD	0.022	4	D438	1SS131	Diode (Si)	1
C153				D439	1SS131	Diode (Si)	1
C154	Not Used			(COMPONENT COMBINATIONS)			
C155	ECKD1H223MD	0.022	1	Z400-	EXBP86103K	Resistor Array	S 4
C156	ECKD1H223MD	0.022	1	Z403			
C157	Not Used			(TRANSFORMER)			
C158-	ECKD1H223MD	0.022	4	T400	ETA14Y85AY	Transformer	1
C161				(RESISTORS)			
C162-	Not Used			R400	ERD16TJ103	10k	1
C165				R401	ERD16TJ103	10k	1
C166-	ECKD1H223MD	0.022	10	R402	Not Used		
C175				R403	ER016CKF1180	118	1
C176	Not Used			R404-	ERD16TJ103	10k	21
C177	ECEA1EU470	47	S 1	R424			
C178	Not Used			R425-	ERD16TJ472	4.7k	3
C179	ECKD1H223MD	0.022	1	R427			
C180	Not Used			R428	ERD16TJ223	22k	1
C181	ECKD1H223MD	0.022	1	R429	Not Used		
C182	Not Used			R430-	ER016CKF1180	118	31
C183	ECKD1H223MD	0.022	1	R460			
C184	ECKD1H223MD	0.022	1	R461-	ER016CKF1021	1.02k	32
C185-	Not Used			R492			
C189				R493-	ER016CKF1430	143	12
C190	ECKD1H223MD	0.022	1	R504			
C191	ECKD1H223MD	0.022	1	R505-	ER016CKF1001	1k	12
C192-	Not Used			R516			
C196				(OTHERS)			
C197	ECCD1H150JC	15P	1	1	PQDF996Z	Shaft	2
C198	ECCD1H150JC	15P	1	2	PQUB11Z	Plastic Parts, Latch	2
C199	ECEA1EU470	47	1	3	PQME52Z	Plastic Parts, Stopper	4
				CNA	PQJP14D49Z	Connector, 14P	1
				CN1,2	PQJP45S30Z	Connector, 45P	2

Ref. No.	Part No.	Value	Pcs
R517	ER016CKF1151	1.15k	1
R518	ER016CKF1151	1.15k	1
R519	Not Used		
R520	Not Used		
R521	ER016CKF3401	3.4k	1
R522	ER016CKF3401	3.4k	1
R523-	ER016CKF3921	3.92k	5
R527			
R528	ERD16TJ104	100k	1
R529	ERD16TJ223	22k	1
R530	ERD16TJ333	33k	1
R531	ERD16TJ333	33k	1
R532	ERD16TJ102	1k	1
R533	ERD16TJ102	1k	1
R534	ERD16TJ222	2.2k	1
R535	ERD16TJ223	22k	1
R536	ERD16TJ333	33k	1
R537	ERD16TJ222	2.2k	1
R538	ERD16TJ223	22k	1
R539	ERD16TJ333	33k	1
R540	ERD16TJ332	3.3k	1
R541	ERD16TJ472	4.7k	1
R542	ERD16TJ222	2.2k	1
R543	ERD16TJ472	4.7k	1
R544	ERD16TJ334	330k	1
R545	ERD16TJ333	33k	1
R546	ERD16TJ103	10k	1
R547	ERD16TJ153	15k	1
R548	ERD16TJ103	10k	1
R549	ERD16TJ681	680	1
R550	ERD16TJ681	680	1
R551	ERD16TJ332	3.3k	1
R552	ERD16TJ683	68k	1
R553	ERD16TJ823	82k	1
R554	ERD16TJ224	220k	1
R555	ERD16TJ474	470k	1
R556	ERD16TJ563	56k	1
R557	ERD16TJ184	180k	1
R558	ERD16TJ823	82k	1
R559	ERD16TJ683	68k	1
R560	ERD16TJ823	82k	1
R561	ERD16TJ224	220k	1
R562	ERD16TJ823	82k	1
R563	ERD16TJ474	470k	1
R564	ERD16TJ184	180k	1
R565	ERD16TJ563	56k	1
R566-	Not Used		
R569			
R570	ERD16TJ102	1k	1
R571	ERD16TJ102	1k	1
R572-	ERD16TJ104	100k	3
R574			
R575	ERD16TJ332	3.3k	1
R576	ERD16TJ102	1k	1
R577-	Not Used		
R583			
R584	ERD16TJ563	56k	1
R585	Not Used		
R586	ERD16TJ183	18k	1
R587	Not Used		
R588	ERD16TJ103	10k	1
R589	ERD16TJ103	10k	1
(CAPACITORS)			
C400	Not Used		
C401	Not Used		
C402	ECEA1EU470	47	S 1
C403	ECEA1EU470	47	S 1
C404	ECEA1HU220	22	S 1
C405	ECEA1HU220	22	S 1
C406	ECEA1HN2R2S	2.2	S 1
C407	ECEA1EU101	100	S 1
C408	Not Used		
C409	ECQM1H222JV	0.0022	1
C410	ECKD1H223MD	0.022	1
C411	Not Used		
C412	Not Used		

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C413	ECKD1H223MD	0.022	1
C414	Not Used		
C415	Not Used		
C416	Not Used		
C417	ECKD1H102JA	0.001	1
C418	Not Used		
C419	Not Used		
C420	ECQM1H102JV	0.001	1
C421	ECQM1H102JV	0.001	1
C422-	ECQV1H273JZ	0.027	5
C426			
C427	ECKD1H102JA	0.001	1
C428	ECKD1H332KB	0.0033	1
C429	ECKD1H102JA	0.001	1
C430	ECKD1H332KB	0.0033	1
C431	ECFD1C104KD	0.1	1
C432	ECFD1C104KD	0.1	1
C433	ECKD1H332KB	0.0033	1
C434	ECQV1H333JZ	0.033	1
C435	Not Used		
C436	Not Used		
C437	Not Used		
C438-	ECQM1H222JV	0.0022	4
C441			
C442	ECFD1C104KD	0.1	1
C443	ECQV1H683JZ	0.068	1
C444	ECFD1C104KD	0.1	1
C445	ECQV1H473JZ	0.047	1
C446	Not Used		
C447	ECKD1H223MD	0.022	1
C448	ECKD1H223MD	0.022	1
C449	Not Used		
C450	ECKD1H103KB	0.01	1
C451	ECKD1H223MD	0.022	1
C452	Not Used		
C453-	ECKD1H223MD	0.022	4
C456			
C457	Not Used		
C458-	ECKD1H223MD	0.022	7
C464			
C465	ECEA1CSS102	1000	1
C466-	Not Used		
C469			
C470	ECKD1H102JA	0.001	1
C471	ECKD1H102JA	0.001	1
(OTHERS)			
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CN3	PQJP45S30Z	Connector, 45P	1
CN4	PQJP90S30Z	Connector, 90P	1
LC (1,2) BOARD PARTS			
PCB4	KX-T123270	LC P.C. Board Ass'y (NLA) (Supply by business route)	2
(ICs)			
IC300	PQVI671152F	IC	1
IC301	PQVIHD7LS08P	IC	1
IC302	PQVIHD7LS08P	IC	1
IC303	PQVIHD7L640P	IC	1
IC304	PQVIHD7LS04P	IC	1
IC305	PQVIHD7L244P	IC	1
(TRANSISTORS)			
Q300A-	2SA937	Transistor (Si)	8
Q300H			
Q301A-	2SB644	Transistor (Si)	8
Q301H			
Q302A-	2SD639	Transistor (Si)	8
Q302H			

Ref. No.	Part No.	Part Name & Description	Pcs	Ref. No.	Part No.	Value, Part Name and Description	Pcs
Q303A- Q303H, Q304A- Q304H, Q305A- Q305H	2SC2021	Transistor (Si)	24	Z300	EXBP88472K	(COMPONENT COMBINATIONS) Resistor Array S	1
Q306A- Q306H	UN1122	TRansistor (Si)	8	Z301	PQRS8B8102J	Resistor Array	1
Q307A- Q307H	DTC124EA	TRansistor (Si)	8	Z302	EXBP84103K	Resistor Array S	1
Q308A- Q308H	Not Used			PC	PQVIPC817K	(PHOTO ELECTRIC TRANSDUCERS) Photo Coupler S	8
Q309A- Q309H	Not Used			300A- PC 300H			
Q310A- Q310H	Not Used			X300	PQVCX4000N8Z	(CRYSTAL OSCILLATOR) Crystal Oscillator	1
Q311A	DTC124EA	Transistor (Si)	1	T300A- T300H	ETA14Y85AY	(TRANSFORMERS) Transformer	8
Q311B	DTC124EA	Transistor (Si)	1	T301A- T301H	ETE13K38AY	Transformer	8
Q312A	DTA124EA	Transistor (Si)	1				
Q312B	DTA124EA	Transistor (Si)	1				
		(DIODES)					
D300A- D300H, D301A- D301H	MA4047	Diode (Si)	16	L300A- L300H, L301A- L301H,	PQLQZM2R2M	(COILS) Choke Coil	16
D302A- D302H,	1SS131	Diode (Si)	8				
D303A- D303H, D304A- D304H	Not Used						
D305A- D305H	1SS131	Diode (Si)	8	RLY 30A- RLY 30H	PQSL41Z	(RELAYS) Relay	8
D306A- D306H	Not Used			RLY31A RLY31B	PQSL49Z PQSL49Z	Relay Relay	1 1
D307A- D307H	MA4056	Diode (Si)	8				
D308A- D308H, D309A- D309H, D310A- D310H, D311A- D311H, D312A- D312H, D313, D314A, D314B	1SS131	Diode (Si)	43				
		(VARISTORS)					
ZNR 30A- ZNR 30H, ZNR 31A- ZNR 31H, ZNR32, ZNR33	ERZC03DK241	Varistor	18	R300A- R300H R301A- R301H R302A- R302H, R303A- R303H R304A- R304H R305A- R305H R306A- R306H R307A- R307H R308A- R308H R309A- R309H R310A- R310H R311A- R311H, R312A- R312H R313A- R313H R314A- R314H R315A- R315H	ERD16TJ330 ERD16TJ220 ERD16TJ682 ERD16TJ220 ERD16TJ330 PQRD2TJ102 ERD16TJ153 ERD16TJ123 ERD16TJ101 ERD16TJ473 ERD16TJ121 ERD16TJ222 ERD16TJ221 ERD16TJ472	33 22 6.8k 22 33 1k 15k 12k 100 47k 120 2.2k 220 4.7k	8 8 16 8 8 8 8 8 8 8 16 8 8 8
PTH 30A- PTH 30H	PQRPAR8R2M	(THERMISTORS) Thermistor	8				

Ref. No.	Part No.	Value, Part Name & Description	Pcs
R316A- R316H, R317 R318	ERD16TJ103	10k	9
R319	Not Used		
R320	ERD16TJ472	4.7k	1
R321	Not Used		
R322	ERD16TJ472	4.7k	1
R323	Not Used		
R324	ERD16TJ103	10k	1
R325	Not Used		
R326	ERD16TJ105	1M	1
R327- R331	ERD16TJ103	10k	5
(CAPACITORS)			
C301A- C301H	ECEA1HU3R3	3.3	S 8
C302A- C302H	ECEA1HU2R2	2.2	8
C303A- C303H	ECEA1HU3R3	3.3	S 8
C304A- C304H	ECEA1HN4R7S	4.7	8
C305A- C305H, C306A- C306H	ECEA1HU010	1	16
C307A- C307H, C308A- C308H	ECKD1H103KB	0.01	16
C309	ECDD1H221J	220P	1
C310	ECEA1HU100	10	1
C311	Not Used		
C312	Not Used		
C313	ECKD1H223MD	0.022	1
C314	Not Used		
C315	Not Used		
C316	Not Used		
C317	PQCBC1C103MY	0.01	1
C318	ECEA1EU101	100	1
C319	Not Used		
C320	ECEA1EU470	47	S 1
C321	ECEA1EU101	100	1
C322	ECEA1EU101	100	1
C323	Not Used		
C324	Not Used		
C325	ECDD1H220JC	22P	1
C326	ECDD1H220JC	22P	1
C327A- C327H, C328A- C328H	ECKD1H471KB	470P	16
(OTHERS)			
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CNA	PQJS50Q30Y	Socket, 50P	1
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connector, 45P	1

Ref. No.	Part No.	Part Name & Description	Pcs
CO-1 BOARD PARTS			
PCB5	KX-T123280	CO-1 P.C. Board Ass'y (NLA) (Supply by business route)	1
IC200A- IC200D, IC201A- IC201D IC202A- IC202D	PQVINJM4558D	(ICs) IC	8
IC203 IC204 IC205 IC206 IC207	PQVINJ7301D	IC	4
	PQVIBU 3149	IC	1
	PQVI672191F	IC	1
	PQVIHD7L640P	IC	1
	PQVIHD7LS08P	IC	1
	PQVIHD7LS04P	IC	1
Q200A- Q200D Q201A- Q201D Q202A- Q202D, Q203A- Q203D Q204A- Q204D	2SC2590	(TRANSISTORS) Transistor (Si)	4
	Not Used		
	DTC124EA	Transistor (Si)	12
D201A- D201D D202A- D202D D203A- D203D D204A- D204D, D205A- D205D D206A- D206D D207A- D207D D208A- D208D D209A- D209D, D210A- D210D, D211A- D211D, D212A- D212D D213A- D213D D214A- D214D, D215A- D215D, D216A- D216D	MA4150	(DIODES) Diode (Si)	4
	Not Used		
	PQVDS1YB40F1	Diode (Si)	4
	MA4047	Diode (Si)	8
	1SS131	Diode (Si)	4
	Not Used		
	PQVDSV03YSW	Diode (Si)	4
	1SS131	Diode (Si)	16
	Not Used		
	1SS131	Diode (Si)	12
PC 200A- PC 200D PC 201A- PC 201D	PQVIPC817K	(PHOTO ELECTRIC TRANSDUCERS) Photo Coupler	4
	PQVITLP521	Photo Coupler	4

Ref. No.	Part No.	Value, Part Name & Description	Pcs
ZNR 20A- ZNR 20D, ZNR 21A- ZNR 21D ZNR 22A- ZNR 22D	PQVDDSS401M	(VARISTORS) Varistor	8
	ERZC07DK820	Varistor	4
X201	PQVBFC3584A1	(CERAMIC FILTER) Ceramic Filter	1
RLY 20A- RLY 20D RLY 21A- RLY 21D RLY 22A- RLY 22D	PQSL34Z	(RELAYS) Relay	4
	PQSL63Z	Relay	4
	PQSL41Z	Relay	4
T200A- T200D	ETA14Y85AY	(TRANSFORMERS) Transformer	4
L200A- L200D, L202A- L202D L201A- L201D, L203A- L203D L204A- L204D, L205A- L205D	PQLQZL101K	(COILS) Choke Coil	8
	PQLQZK100K	Choke Coil	8
	PQLQZK220K	Choke Coil	8
R200A- R200D R201A- R201D R202A- R202D R203A- R203D R204A- R204D R205A- R205D R206A- R206D R207A- R207D R208A- R208D R209A- R209D R210A- R210D, R211A- R211D	ERD16TJ151	(RESISTORS) 150	4
	ERDS1TJ223	22k	4
	ERDS2TJ102	1k	4
	ERD16TJ5R6	5.6	4
	ERD16TJ822	8.2k	4
	ERD25TJ330	33	4
	ERD16TJ473	47	4
	ERD16TJ472	4.7k	4
	ERD16TJ473	47	4
	Not Used		
	ER016CKF1211	1.21k	8

Ref. No.	Part No.	Value	Pcs
R212A- R212D, R213A- R213D R214A- R214D R215A- R215D, R216A- R216D R217A- R217D R218A- R218D R219A- R219D R220A- R220D, R221A- R221D R222A- R222D R223A- R223D, R224A- R224D, R225A- R225D, R226A- R226D R227A- R227D R228A- R228D R229A- R229D R230A- R230D R231A- R231D R232A- R232D R233A- R233D R234A- R234D R235A- R235D R236A- R236D R237A- R237D R238A- R238D R239A- R239D R240 R241 R242 R243 R244 R245A- R245D R246 R247- R250 R251 R252 R253A- R253D, R254 R255 R256 R257 R258 R259 R260	ER016CKF1003	100k	8
	Not Used		
	ER016CKF1003	100k	8
	Not Used		
	ER016CKF2613	261k	4
	ERD16TJ102	1k	4
	ER016CKF1211	1.21k	8
	Not Used		
	ER016CKF1003	100k	16
	Not Used		
	ER016CKF2613	261k	4
	ERD16TJ391	390	4
	ERD16TJ152	1.5k	4
	Not Used		
	ERD16TJ471	470	4
	ERD16TJ122	1.2k	4
	Not Used		
	ERD16TJ471	470	4
	ERD16TJ122	1.2k	4
	ERD16TJ105	1M	4
	Not Used		
	ERD16TJ102	1k	4
	Not Used		
	Not Used		
	ERD16TJ472	4.7k	1
	Not Used		
	ERD16TJ105	1M	4
	ERD16TJ103	10k	1
	ERD16TJ223	22k	4
	ERD16TJ101	100	1
	ERD16TJ105	1M	1
	ERD16TJ103	10k	6
	Not Used		
	Not Used		
	Not Used		
	ERD16TJ102	1k	1
	Not Used		
	ERD16TJ470	47	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs
R261	ERD16TJ184	180k	1
		(CAPACITORS)	
C200A-C200D	ECQE1104KN	0.1	4
C201A-C201D	ECQE2474KF	0.47	4
C202A-C202D, C203A-C203D	ECEA1HU220	22	8
C204A-C204D	ECQV1H104JZ	0.1	4
C205A-C205D	ECEA1HU220	22	4
C206A-C206D	ECKD1H102JA	0.001	4
C207A-C207D, C208A-C208D	ECFD1E683MD	0.068	8
C209A-C209D, C210A-C210D	ECCD1H560JC	56P	8
C211A-C211D	ECFD1E333KD	0.033	4
C212A-C212D	Not Used		
C213A-C213D	ECFD1E183KD	0.018	4
C214A-C214D	Not Used		
C215A-C215D	ECFD1E183KD	0.018	4
C216	Not Used		
C217	ECKD1H223MD	0.022	1
C218	Not Used		
C219	ECKD1H223MD	0.022	1
C220	ECKD1H223MD	0.022	1
C221	ECKD1H223MD	0.022	1
C222	ECKD1H103KB	0.01	1
C223	Not Used		
C224	Not Used		
C225A-C225D	ECKDKC222KB	0.0022	4
C226	ECEA1EU101	100	1
C227	Not Used		
C228	ECEA1EU470	47	1
C229	ECEA1EU470	47	1
C230	ECEA1EU101	100	1
C231	ECEA1CSS102	1000	1
C232	Not Used		
C233	Not Used		
C237			
C238A-C238D	ECKD1H103KB	0.01	4
C239	ECEA1HU100	10	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connectro, 45P	1
MJ1-4	PQJ1TA11Z	Jack	4

Ref. No.	Part No.	Part Name & Description	Pcs
CO-2 BOARD PARTS			
PCB6	KX-T123281	CO-2 P.C. Board Assy (NLA) (Supply by business route)	1
		(ICs)	
IC200A-IC200B, IC201A-IC201B	PQVINJM4558D	IC	4
IC202A	PQVINJ7301D	IC	1
IC202B	PQVINJ7301D	IC	1
IC203	PQVIBU3149	IC	1
IC204	PQVI672191F	IC	1
IC205	PQVIHD7L640P	IC	1
IC206	PQVISN7LS08N	IC	1
IC207	PQVIHD7LS04P	IC	1
		(TRANSISTORS)	
Q200A	2SC2590	Transistor (Si)	1
Q200B	2SC2590	Transistor (Si)	1
Q201A	Not Used		
Q201B	Not Used		
Q202A, Q202B, Q203A, Q203B, Q204A, Q204B	DTC124EA	Transistor (Si)	6
		(DIODES)	
D201A	MA4150	Diode (Si)	1
D201B	MA4150	Diode (Si)	1
D202A	Not Used		
D202B	Not Used		
D203A	PQVDS1YB40F1	Diode (Si)	1
D203B	PQVDS1YB40F1	Diode (Si)	1
D204A, D204B, D205A, D205B	MA4047	Diode (Si)	4
D206A	1SS131	Diode (Si)	1
D206B	1SS131	Diode (Si)	1
D207A	Not Used		
D207B	Not Used		
D208A	PQVDSV03YSW	Diode (Si)	1
D208B	PQVDSV03YSW	Diode (Si)	1
D209A, D209B, D210A, D210B, D211A, D211B, D212A, D212B, D213A, D213B, D214A, D214B, D215A, D215B, D216A, D216B	1SS131	Diode (Si)	8
		(CERAMIC FILTER)	
X201	PQVBFC3584A1	Ceramic Filter	1
		(PHOTO ELECTRIC TRANSDUCERS)	
PC200A	PQVIPC817K	Photo Coupler	1
PC200B	PQVIPC817K	Photo Coupler	1
PC201A	PQVITLP521	Photo Coupler	1
PC201B	PQVITLP521	Photo Coupler	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs	Ref. No.	Part No.	Value	Pcs
		(VARISTORS)					
ZNR20A	PQVDDSS401M	Varistor	4	R220A,	ER016CKF1211	1.21k	4
ZNR20B				R220B,			
ZNR21A				R221A,			
ZNR21B				R221B			
ZNR22A	ERZC07DK820	Varistor	1	R222A	Not Used		
ZNR22B	ERZC07DK820	Varistor	1	R222B	Not Used		
			1	R223A,	ER016CKF1003	100k	8
				R223B,			
		((RELAYS))		R224A,			
RLY20A	PQSL34Z	Relay	1	R224B,			
RLY20B	PQSL34Z	Relay	1	R225A,			
RLY21A	PQSL63Z	Relay	1	R225B,			
RLY21B	PQSL63Z	Relay	1	R226A,			
RLY22A	PQSL41Z	Relay	1	R226B			
RLY22B	PQSL41Z	Relay	1	R227A	Not Used		
				R227B	Not Used		
		(TRANSFORMERS)		R228A	ER016CKF2613	261k	1
T200A	ETA14Y85AY	Transformer	1	R228B	ER016CKF2613	261k	1
T200B	ETA14Y85AY	Transformer	1	R229A	ERD16TJ391	390	1
				R229B	ERD16TJ391	390	1
				R230A	ERD16TJ152	1.5k	1
		(COILS)		R230B	ERD16TJ152	1.5k	1
L200A,	PQLQZL101K	Choke Coil	4	R231A	Not Used		
L200B,				R231B	Not Used		
L202A,				R232A	ERD16TJ471	470	1
L202B				R232B	ERD16TJ471	470	1
L201A,	PQLQZK100K	Choke Coil	4	R233A	ERD16TJ122	1.2k	1
L201B,				R233B	ERD16TJ122	1.2k	1
L203A,				R234A	Not Used		
L203B				R234B	Not Used		
L204A,	PQLQZK220K	Choke Coil	4	R235A	ERD16TJ471	470	1
L204B,				R235B	ERD16TJ471	470	1
L205A,				R236A	ERD16TJ122	1.2k	1
L205B				R236B	ERD16TJ122	1.2k	1
		(RESISTORS)		R237A	ERD16TJ105	1M	1
R200A	ERD16TJ151	150	1	R237B	ERD16TJ105	1M	1
R200B	ERD16TJ151	150	1	R239A	ERD16TJ102	1k	1
R201A	ERDS1TJ223	22k	1	R239B	ERD16TJ102	1k	1
R201B	ERDS1TJ223	22k	1	R240A	Not Used		
R202A	ERDS2TJ102	1k	1	R240B	Not Used		
R202B	ERDS2TJ102	1k	1	R241A	Not Used		
R203A	ERD16TJ5R6	5.6	1	R241B	Not Used		
R203B	ERD16TJ5R6	5.6	1	R242A	Not Used		
R204A	ERD16TJ822	8.2k	1	R242B	Not Used		
R204B	ERD16TJ822	8.2k	1	R243	ERD16TJ472	4.7k	1
R205A	ERD25TJ330	33	1	R244	Not Used		
R205B	ERD25TJ330	33	1	R245A	ERD16TJ105	1M	1
R206A	ERD16TJ473	47k	1	R245B	ERD16TJ105	1M	1
R206B	ERD16TJ473	47k	1	R246	ERD16TJ103	10k	1
R207A	ERD16TJ472	4.7k	1	R247,	ERD16TJ223	22k	4
R207B	ERD16TJ472	4.7k	1	R248,			
R208A	ERD16TJ473	47k	1	R249,			
R208B	ERD16TJ473	47k	1	R250			
R209A	Not Used			R251	ERD16TJ101	100	1
R209B	Not Used			R252	ERD16TJ105	1M	1
R210A,	ER016CKF1211	1.21k	4	R253A	ERD16TJ103	10k	4
R210B,				R253B,			
R211A,				R254,			
R211B				R255			
R212A,	ER016CKF1003	100k	4	R256	ERD16TJ223	22k	1
R212B,				R257	ERD16TJ223	22k	1
R213A,				R258	ERD16TJ102	1k	1
R213B,				R259	Not Used		
R214A	Not Used			R260	ERD25TJ470	47	1
R214B	Not Used			R261	ERD16TJ184	180k	1
R215A,	ER016CKF1003	100k	4				
R215B,							
R216A,							
R216B							
R217A	Not Used						
R217B	Not Used						
R218A	ER016CKF2613	261k	1				
R218B	ER016CKF2613	261k	1				
R219A	ERD16TJ102	1k	1				
R219B	ERD16TJ102	1k	1				

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C204B	ECQV1H104JZ	0.1	1
C205A	ECEA1HU220	22	1
C205B	ECEA1HU220	22	1
C206A	ECKD1H102JA	0.001	1
C206B	ECKD1H102JA	0.001	1
C207A,	ECFD1E683MD	0.068	4
C207B,			
C208A,			
C208B			
C209A,	ECCD1H560JC	56P	4
C209B,			
C210A,			
C210B			
C211A	ECFD1E333KD	0.033	1
C211B	ECFD1E333KD	0.033	1
C212A	Not Used		
C212B	Not Used		
C213A	ECFD1E183KD	0.018	1
C213B	ECFD1E183KD	0.018	1
C214A	Not Used		
C214B	Not Used		
C215A	ECFD1E183KD	0.018	1
C215B	ECFD1E183KD	0.018	1
C216	Not Used		
C217	ECKD1H223MD	0.022	1
C218	Not Used		
C219,	ECKD1H223MD	0.022	3
C220,			
C221			
C222	ECKD1H103KB	0.01	1
C223	Not Used		
C224	Not Used		
C225A	ECKDKC222KB	0.0022	1
C225B	ECKDKC222KB	0.0022	1
C226	ECEA1EU101	100	1
C227	Not Used		
C228,	ECEA1EU470	47	2
C229			
C230	ECEA1EU101	100	1
C231	ECEA1CSS102	1000	1
C232-	Not Used		
C237			
C238A	ECKD1H103KB	0.01	1
C238B	ECKD1H103KB	0.01	1
C239	ECEA1HU100	10	1
C240A	ECKDKC222KB	0.0022	1
C240B	ECKDKC222KB	0.0022	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Latch	2
3	Not Used		
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connector, 45P	1
MJ1,2	PQJ1TA11Z	Jack, Telephone	2
POWER BOARD PARTS			
PCB7	PQWP7T123210	Power P.C. Board Assy (NLA)	1
		(TRANSISTORS)	
Q50	2SC2673	Transistor (Si)	1
Q51	2SB1015	Transistor (Si)	1
Q52	2SA881	Transistor (Si)	1
Q53	2SD1406	Transistor (Si)	1
		(DIODES)	
D50,51	PQVDS3V10LF	Diode (Si)	2
D52,53,	1SS131	Diode (Si)	3
D54			
D55,56	PQVDS3V10LF	Diode (Si)	2
D57,58	1SR35-200	Diode (Si)	2
LED1-3	LN28RPL	LED	3

Ref. No.	Part No.	Value, Part Name & Description	Pcs
ZNR50	Not Used	(VARISTOR)	
		(RESISTORS)	
R50	ERD16TJ823	82k	1
R51	ERD16TJ103	10k	1
R52	PQRD1VJ1R0	1	1
R53	ERDS1TJ181	180	1
R54,55	ERDS1TJ151	150	2
R56	ERDS1TJ181	180	1
R57	ERD16TJ103	10k	1
R58	PQRD1VJ1R0	1	1
R59	ERD16TJ103	10k	1
R60	ERD16TJ104	100k	1
R61	ERDS1TJ101	100	1
R62	ERD16TJ562	5.6k	1
R63	ERD16TJ822	8.2k	1
R64	ERD16TJ272	2.7k	1
		(CAPACITORS)	
C50	ECET35S153SW	15000	1
C51	Not Used		
C52	EECW0HS105Z	1	1
C53	ECEA1AU222	2200	1
C54	ECKD1H102JA	0.01	1
C55	ECEA1VU101	100	1
		(OTHERS)	
CN17	PQJP5D30Z	Connector, 5P	1
CN18	PQJP6D30Z	Connector, 6P	1
CN19	PQJP10D30Z	Connector, 10P	1
CN50	PQJP8D30Z	Connector, 8P	1
CN51	PQJP4D30Z	Connector, 4P	1
POWER UNIT PARTS			
All			
PCB8	PQLP005Z	Power Unit (NLA)	1
		(ICs)	
IC101	PQVIH16664AD	IC	1
IC102	Not Used		
IC201	PQVIL5431	IC	1
IC202,	PQVIR3M02	IC	3
IC203,			
IC204			
IC205	AN6562	IC	3
IC206	PQVIL5431	IC	1
		(TRANSISTORS)	
Q101	2SK800	Transistor (Si)	1
Q102	2SA1015	Transistor (Si)	1
Q103	2SA1015	Transistor (Si)	1
Q104	2SC1815	Transistor (Si)	1
Q105	Not Used		
Q201	2SA1015	Transistor (Si)	1
Q202	2SA1020	Transistor (Si)	1
Q203	2SC3568	Transistor (Si)	1
Q204	2SC2750	Transistor (Si)	1
Q205	2SB744	Transistor (Si)	1
Q206	2SC1815	Transistor (Si)	1
Q207	2SA1020	Transistor (Si)	1
Q208	2SC3568	Transistor (Si)	1
Q209	Not Used		
Q210	Not Used		
Q211	Not Used		
Q212	Not Used		

Ref. No.	Part No.	Part Name and Description	Pcs	Ref. No.	Part No.	Value	Pcs
		(DIODES)		TH101	ERTD5FFL5R0P	Thermistor	1
D101	PQVDD5SB60	Diode (Si)	1	TH102	ERTD5FFL5R0P	Thermistor	1
D102	PQVD10DF6	Diode (Si)	1				
D103	PQVD10DF6	Diode (Si)	1			(CAPACITORS)	
D104	PQVDERA22-02	Diode (Si)	1	C101	ECQU1A224MH	0.22	1
D105	MA4100	Diode (Si)	1	C102	ECKDKC472KB	4700P	1
D106	1SS131	Diode (Si)	1	C103	ECKDKC222KB	2200P	1
D107	Not Used			C104	ECKDKC222KB	2200P	1
D108	PQVDRD18FB	Diode (Si)	1	C105	ECOS2DG102Y	1000	1
D109	PQVDRD20JSB	Diode (Si)	1	C106	ECQE6103KF	0.01	1
D110	Not Used			C107	ECKD3A471KBL	470P	1
D111	Not Used			C108	ECEA1HGA100	10	1
D201	PQVDC25P20F	Diode (Si)	1	C109	ECQV1H104JZ	0.1	1
D202	PQVD11ES2	Diode (Si)	1	C110	ECQM1H153JV	0.015	1
D203	PQVDF10P04Q	Diode (Si)	1	C111	ECQM1H152JV	0.0015	1
D204	PQVDRD6.2ESB	Diode (Si)	1	C112	ECEA1HGA100	10	1
D205	PQVD11ES2	Diode (Si)	1	C113	ECEA1HGA100	10	1
D206	1SS92		1	C114	Not Used		
D207	PQVDF10P20F	Diode (Si)	1	C115	Not Used		
D208	PQVDRD18JSB	Diode (Si)	1	C116	Not Used		
D209	PQVD11ES2	Diode (Si)	1	C117	Not Used		
D210	PQVDF10P10Q	Diode (Si)	1	C118	Not Used		
D211	PQVDRD13JSB	Diode (Si)	1	C119	Not Used		
D212	Not Used			C120	Not Used		
D213	Not Used			C121	ECKDKC472KB	4700P	1
				C122	Not Used		
				C123	Not Used		
				C124	ECKDKC472KB	4700P	1
		(PHOTO ELECTRIC TRANSDUCERS)					
PC101,	PQVITLP521	Photo Coupler	1				
PC102,	Not Used						
PC201	PQVITLP521	Photo Coupler	1				
				C200	Not Used		
				C201	ECKD3A102KBN	1000P	1
				C202	ECKD3A471KBL	470P	1
				C203	ECEA1EG332S	3300	1
		(THYRISTOR)		C204	ECEA1HGA010	1	1
SCR201	PQVDAC12DSM	Thyristor	1	C205	ECEA1EG332S	3300	1
				C206	ECQM1H104JV	0.1	1
				C207	ECEA1HGA010	1	1
		(VARISTOR)		C208	ECEA1HGA100	10	1
SA103	ERZC14DK271U	Varister	1	C209	ECQM1H473JV	0.047	1
				C210	ECQM1H153JV	0.015	1
				C211	ECQM1H102JV	0.001	1
		(COILS & TRANSFORMERS)		C212	ECEA1AGA222	2200	1
L101	PQLE75	Choke Coil	1	C213	ECQM1H104JV	0.1	1
L102	PQLE76	Choke Coil	1	C214	ECEA1AGA222	2200	1
T103	ETQ16K11AY	Choke Coil	1	C215	ECEA1HGA100	10	1
L201	PQLE74	Choke Coil	1	C216	ECQM1H473JV	0.047	1
L202	PQLE70	Choke Coil	1	C217	ECQM1H104JV	0.1	1
L203	ELC08D069	Choke Coil	1	C218	ECEA1HGA4R7	4.7	1
L204	PQLE74	Choke Coil	1	C219	ECQM1H104JV	0.1	1
L205	PQLE71	Choke Coil	1	C220	ECQM1H104JV	0.1	1
L206	PQLE72	Choke Coil	1	C221	ECQM1H102JV	0.001	1
L207	ELC08D069	Choke Coil	1	C222	ECEA1EGA222	2200	1
L208	PQLE73	Choke Coil	1	C223	ECEA1EGA222	2200	1
T101	ETS35K420A	Switching Transformer	1	C224	ECEA1EGA222	2200	1
T201	ETH16K33AY	Drive Transformer	1	C225	ECEA1HGA010	1	1
				C226	ECEA1HGA100	10	1
				C227	ECQM1H473JV	0.047	1
		(VARIABLE RESISTORS)		C228	ECQM1H102JV	0.001	1
VR101	Not Used			C229	ECEA1EGA222	2200	1
VR201	EVM38GA00B53	Semi-Fixed, 5kΩ (B)	S 1	C230	ECQM1H104JV	0.1	1
VR202	EVM38GA00B13	Semi-Fixed, 1kΩ (B)	S 1	C231	ECEA1EGA222	2200	1
VR203	PQN80A00B13M	Semi-Fixed, 1kΩ (B)	1	C232	ECEA1HGA100	10	1
VR204	PQN80A00B23M	Semi-Fixed, 2kΩ (B)	1	C233	ECQE2474KF	0.47	1
				C234	ECKDKC222KB	2200P	1
				C235	Not Used		
				C240	ECQV1H105JZ	1	1
		(OTHERS)					
CR119	PQVDMGC4R3R2	Component Combination	1				
CR120	PQVDMGC4R3R2	Component Combination	1			(RESISTORS)	
SW101	EST15302T	Switch, Power	S 1	R103	PQRD2VJ473	47k	1
RL201	Not Used			R104	PQRD2VJ104	100k	1
F101	XBA1C50NU100	Fuse, 5A, 125V	1	R105	ERDS1TJ220	22	1
F201	XBA1C100NU10	Fuse, 10A, 125V	1	R106	PQRD2VJ100	10	1
CN1	PQJS7R35Z	Connector, 7P	1	R107	ERD16TJ683	68k	1
CN2	PQJS2L47Z	Connector, 2P	1	R108	ERD16TJ183	18k	1
100	PQJA112Z	AC Cord	1	R109	ERD16TJ472	4.7k	1
101	PQHR104Z	Clamper, AC Cord	1	R110	ERD16TJ102	1k	1
102	PQHR945Z	Band	4	R111	ERD16TJ221	220	1

Ref. No.	Part No.	Value	Pcs
R112	ERD16TJ103	10k	1
R113	ERD16TJ392	3.9k	1
R114	ERD16TJ333	33k	1
R115	ERD16TJ471	470	1
R116	ERD16TJ103	10k	1
R117	ERDS1TJ101	100	1
R118	Not Used	*	
R119	Not Used	*	
R120	Not Used	*	
R121	Not Used	*	
R122	Not Used	*	
R123	Not Used	*	
R124	Not Used	*	
R201	ERG1ANJP220S	22	1
R202	ERD1TJ100	10	1
R203	ERD16TJ102	1k	1
R204	ER016CKF2002	20k	1
R205	ERD16TJ222	2.2k	1
R206	ERD16TJ561	560	1
R207	ERD16TJ471	470	1
R208	ERD16TJ102	1k	1
R209	ERD16TJ223	22k	1
R210	ERD16TJ104	100k	1
R211	ERD16TJ103	10k	1
R212	ERD16TJ103	10k	1
R213	ERD16TJ104	100k	1
R214	ERD16TJ682	6.8k	1
R215	ERD16TJ103	10k	1
R216	ERD16TJ332	3.3k	1
R217	ERD16TJ680	68	1
R218	ERD1TJ102	1k	1
R219	ERD16TJ100	10	1
R220	ERD16TJ470	47	1
R221	ERD16TJ102	1k	1
R222	PQRF2TLJR05	0.05	1
R223	ERD16TJ681	680	1
R224	ERD16TJ183	18k	1
R225	ERD16TJ682	6.8k	1
R226	ERD16TJ562	5.6k	1
R227	ERD16TJ330	33	1
R228	Not Used		
R229	Not Used		
R230	Not Used		
R231	Not Used		
R232	ERD16TJ103	10k	1
R233	ERD16TJ103	10k	1
R234	ERD16TJ222	2.2k	1
R235	Not Used		
R236	ERD16TJ104	100k	1
R237	ERD16TJ682	6.8k	1
R238	ERD16TJ273	27k	1
R239	ERD16TJ103	10k	1
R240	ERD16TJ183	18k	1
R241	ERD1TJ102	1k	1
R242	ERDS1TJ101	100	1
R243	PQRD3TJ3R3	3.3	1
R244	ERDS1TJ150	15	1
R245	ERD16TJ470	47	1
R246	ERD16TJ102	1k	1
R247	ERD16TJ821	820	1
R248	ERD16TJ104	100k	1
R249	ERD16TJ103	10k	1
R250	ERD16TJ103	10k	1
R251	ERD16TJ104	100k	1
R252	ERD16TJ682	6.8k	1
R253	ERD16TJ103	10k	1
R254	ERD16TJ680	68	1
R255	ERD1TJ102	1k	1
R256	ERD16TJ100	10	1
R257	ERD16TJ470	47	1
R258	ERD16TJ332	3.3k	1
R259	PQRF2TLJR05	0.05	1
R260	ERD16TJ102	1k	1
R261	ERD16TJ223	22k	1
R262	ERD16TJ103	10k	1
R263	ERD16TJ222	2.2k	1

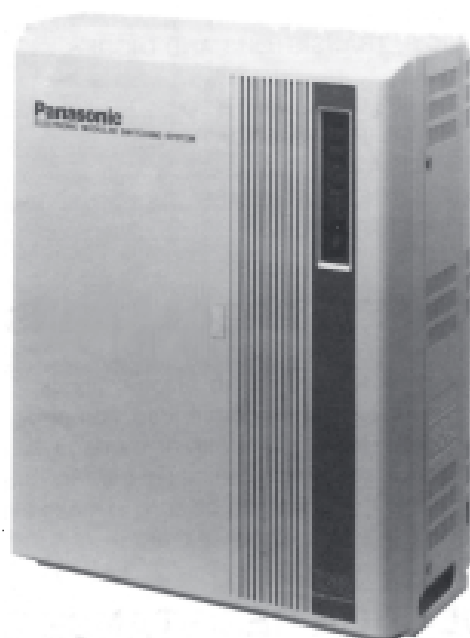
Ref. No.	Part No.	Value	Pcs
R264	ERD16TJ470	47	1
R265	Not Used	*	
R266	Not Used	*	
R267	Not Used	*	
R268	Not Used	*	
R269	Not Used	*	
R270	ERD16TJ153	15k	1
R271	ERD16TJ102	1k	1
R272	ERD16TJ271	270	1
R273	Wire Lead		1
R274	ERD16TJ152	1.5k	1
R275	ERDS1TJ152	1.5k	1
R276	ERD16TJ104	100k	1
R277	ERD16TJ682	6.8k	1
R278	ERD16TJ102	1k	1
R280	ERG2ANJ120	12	1

Service Manual

EASA-PHONE

ELECTRONIC MODULAR SWITCHING SYSTEM

KX-T123210



SPECIFICATIONS\ТЕХНИЧЕСКИЕ ХАРАКТЕРИСТИКИ
NAME AND LOCATION\НАИМЕНОВАНИЕ И РАСПОЛОЖЕНИЕ
CONNECTION\СОЕДИНЕНИЕ
INSTALLATION\УСТАНОВКА
PROGRAMMING\ПРОГРАММИРОВАНИЕ
FOR SERVICE TECHNICIANS\ДЛЯ СЕРВИСНОГО ОБСЛУЖИВАНИЯ
DISASSEMBLY INSTRUCTIONS\МЕТОДИКА РАЗБОРКИ
IC I/O DATA\ОПИСАНИЕ МИКРОСХЕМ
BLOCK DIAGRAM\БЛОК-СХЕМА
SCHEMATIC DIAGRAMS\ПРИНЦИПИАЛЬНАЯ СХЕМА
IC BLOCK DIAGRAM\БЛОК-СХЕМА ИНТЕГРАЛЬНЫХ МИКРОСХЕМ
TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES\ЦОКОЛЕВКА ВЫВОДОВ
ИНТЕГРАЛЬНЫХ МИКРОСХЕМ, ТРАНЗИСТОРОВ И ДИОДОВ
ADJUSTMENTS\РЕГУЛИРОВКИ
EXTENSION BOARD CONNECTING METHOD\МЕТОДИКА ПОДСОЕДИНЕНИЯ СЕРВИСНЫХ
ПЛАТ
CABINET AND ELECTRICAL PARTS LOCATION\РАСПОЛОЖЕНИЕ ЧАСТЕЙ КОРПУСА И
ЭЛЕКТРИЧЕСКИХ ЧАСТЕЙ
ACCESSORIES AND PACKING MATERIALS\ДОПОЛНИТЕЛЬНЫЕ ПРИНАДЛЕЖНОСТИ И
УПАКОВОЧНЫЕ МАТЕРИАЛЫ
REPLACEMENT PARTS LIST\СПИСОК ЗАПАСНЫХ ЧАСТЕЙ

Panasonic

Matsushita Services Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhū St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Matsushita Electric
of Canada Limited
5770 Ambler Drive, Mississauga,
Ontario, L4W 2T3

Panasonic Sales Company,
Division of Matsushita Electric
of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

SPECIFICATIONS

General Description

1. Capacity	Outsides(CO)	Max 12
	Stations	Max 32
2. Control Method	Stored Program CPU: 8 bits CPU Control ROM: 192 KB, Control RAM : 64KB	
3. Switching	Space Division CMOS Crosspoint Switch	
4. Power Supplies	Primary	AC 120V 60Hz
	Secondary	Station Supply Volt : 26V Circuit Volt : +5V, +12V, -14V, -16V, $\pm 7V$
	Power Failure	<ul style="list-style-type: none"> ●Max 6 outsides assigned to stationspower failure transfer ●System operation for several hours by recommended battery (car type batteries - consisting of two 12 VDC, 16 amp / hour maximum rating).
5. Dialing	Outward	Dial Pulse 10PPS, 20PPS Tone Dial
	Internal	Dial Pulse 10PPS, 20PPS Tone Dial
	Mode Conversion	DP-DTMF, DTMF-DP
6. Intercom paths	5	
7. Outside (CO)-Outside (CO) paths	2	
8. Connector	Outsides (CO)	Modular Jack (RJ-11)
	Station	Amphenol Connector
	Paging Output	Pin Jack (RCA JACK)
	External Music Input	two-conductors Jack (MINIJACK 9/64 inch diameter)
9. EXT Connection	Cable	1 pair wire (Standard Telephone) 2 pair wire (KX-T123230/ KX-T123220/ KX-T123250/ KX-T61630/ KX-T61620/ KX-T61631/ KX-T61650/ KX-T30830/ KX-T30820/ KX-T30850)
10. SMDR	Interface	RS-232C
[Station Message Detail Recording]	Output Equipment	Printer, Data Terminal
	Detail Recording	Data, Time, Ext. Number, CO Number, Calling Number, Calling Time, Account Code

Characteristics

1. Station Loop Limit	KX-T123230/ KX-T123220/ KX-T123250/ KX-T61630/ KX-T61620/ KX-T61650/ KX-T61631/ KX-T30830/ KX-T30820/ KX-T30850	
	Standard Telephone	40 ohms
	Doorphone	600 ohms including set 20 ohms
2. Minimum Leak Resistance	15,000 ohms	
3. Maximum Number of Station Instruments per Line	1 (KX-T123230, KX-T123220, KX-T123250, KX-T61630, KX-T61631, KX-T61620, KX-T61650, KX-T30830, KX-T30820, KX-T30850 or Standard telephone)	
4. Ring Voltage	70 Vrms at 20 Hz depends on Ringing Load	
5. Primary Power	120 Vac, 60 Hz, 1.4 A maximum	
6. Central Office Loop Limit	1600 ohms maximum	
7. Environmental Requirements	0-40 C, 10%-90%	
8. Hookswitch Flash Timing Range	204-1000 msec	

Dimensions and Weight

1. Dimensions	382 (W) x 477 (H) x 198 (D) mm (15 1/32" x 18 25/32" x 7 13/16")
2. Weight	9.45 kg (20 lb 13 oz)

Design and specifications are subject to change without notice.

NAME AND LOCATION

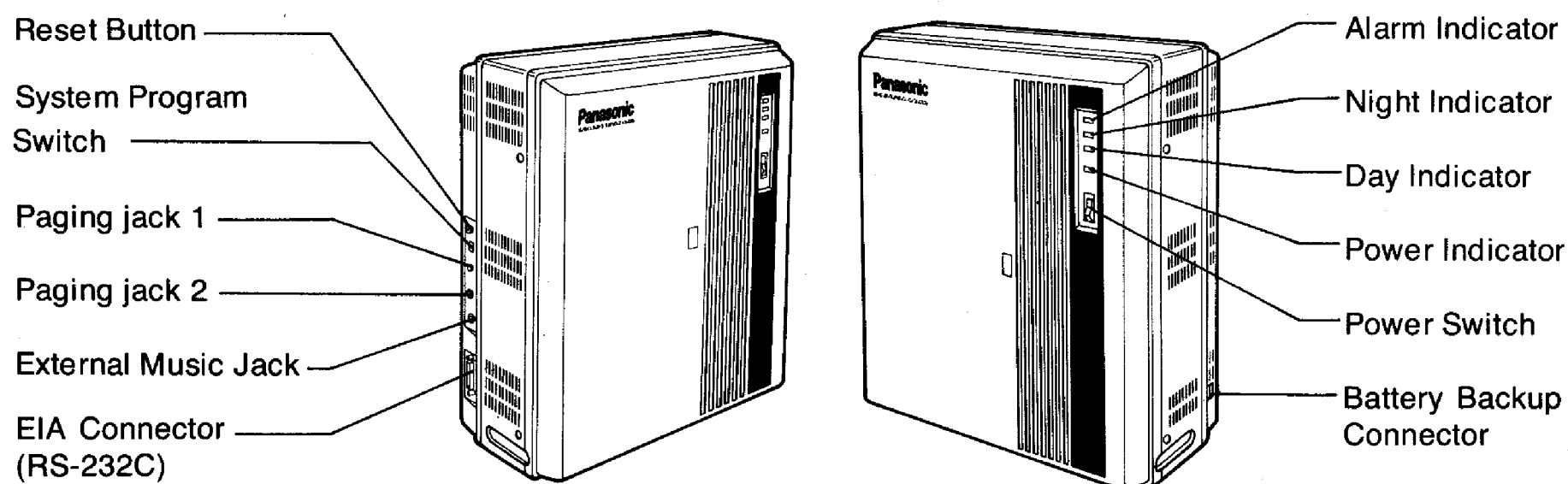


Fig. 3

CONNECTION

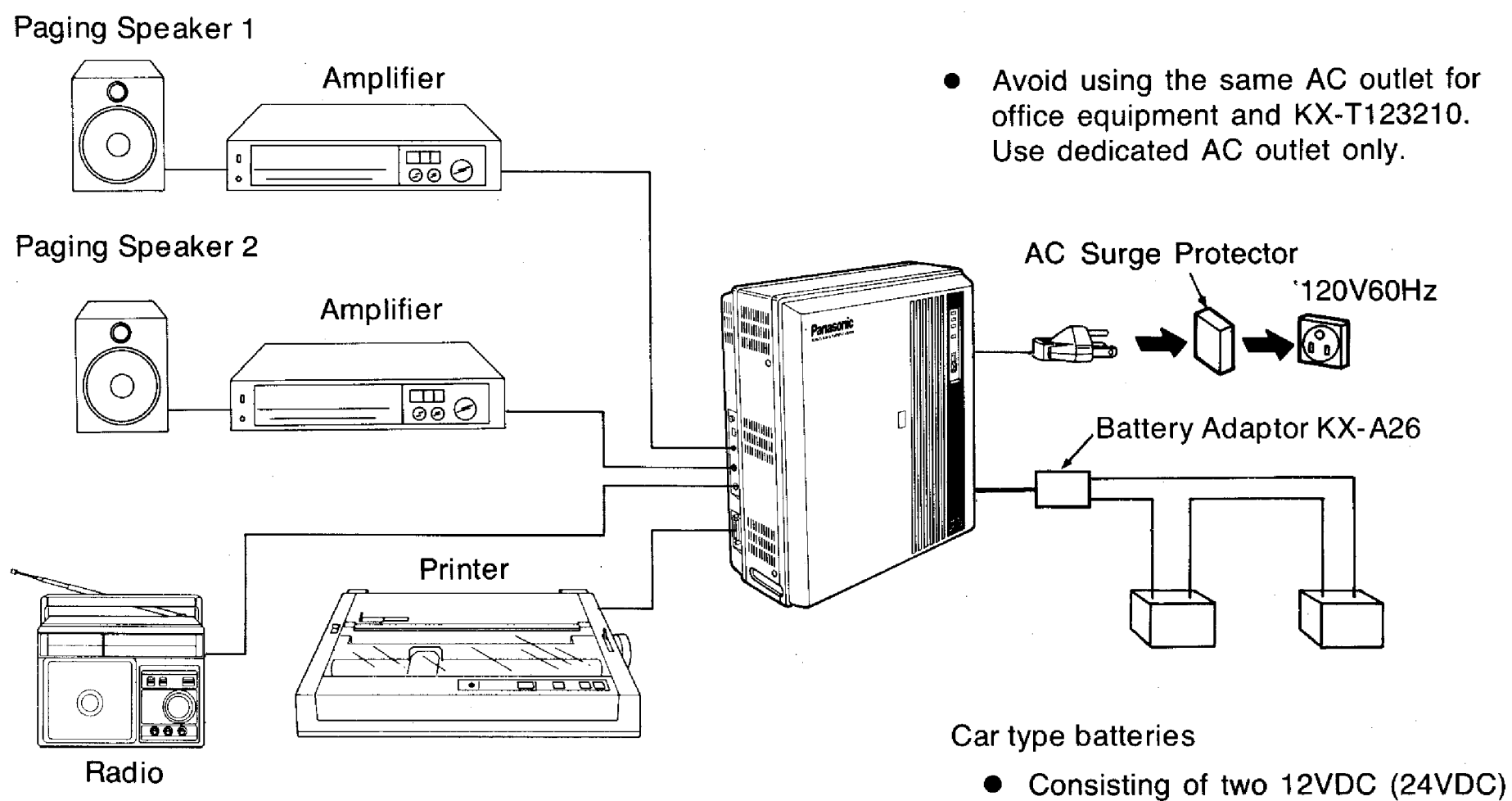


Fig. 4

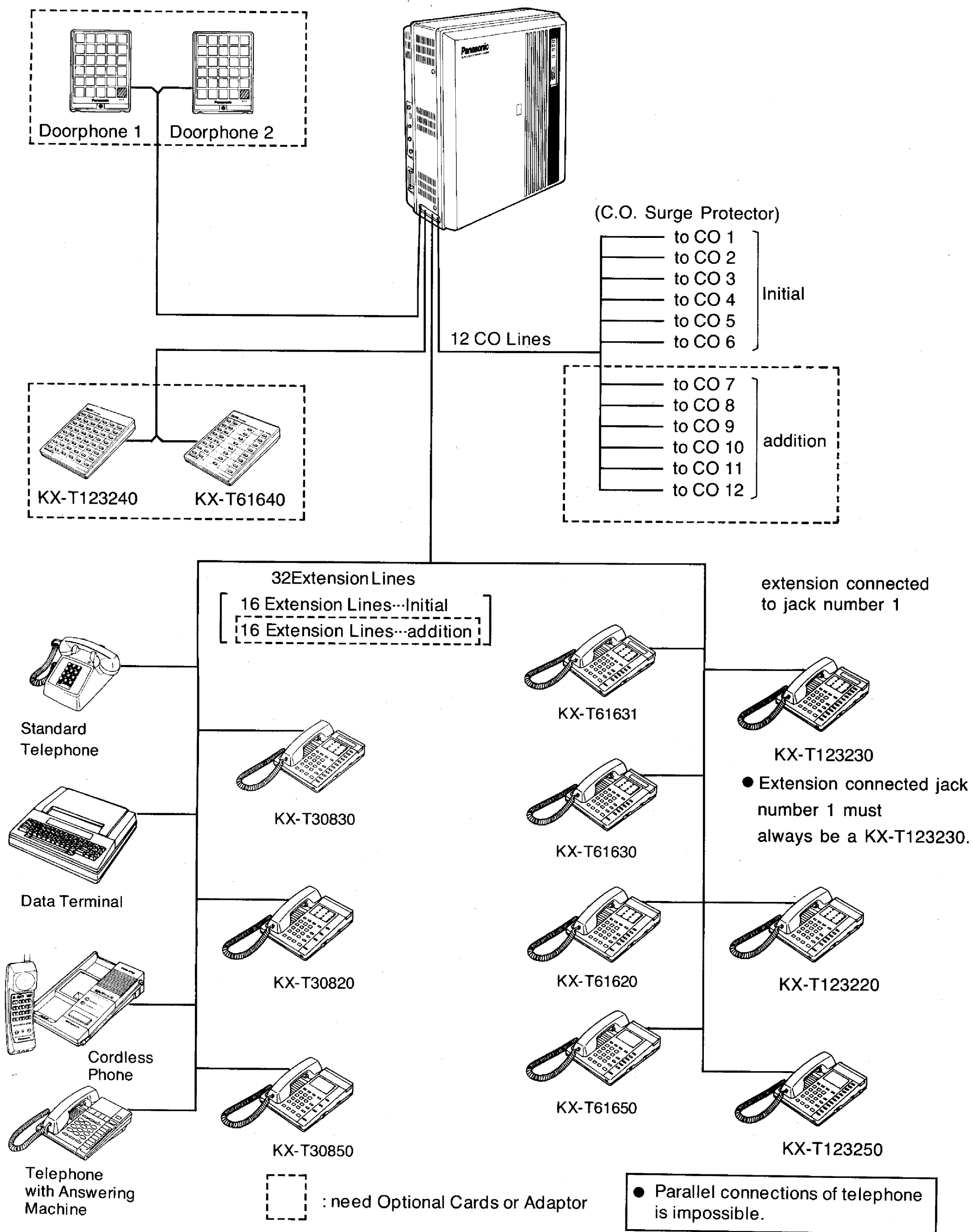
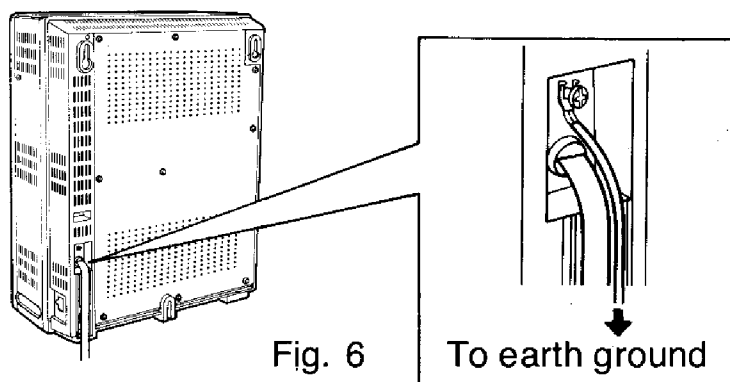


Fig. 5

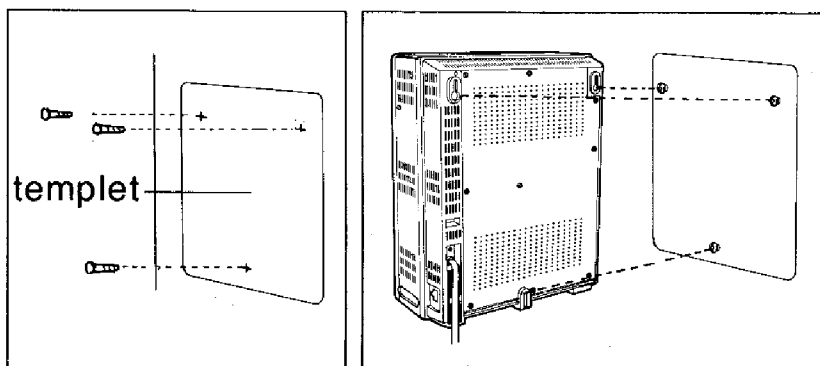
INSTALLATION

Frame Ground Connection



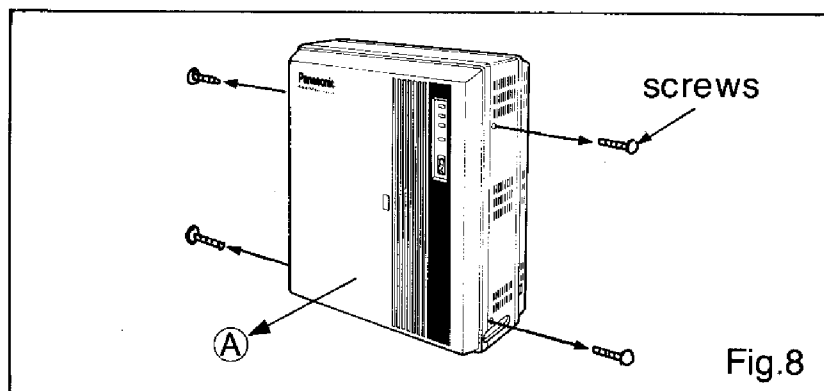
Wall Mounting

1. Place the templet (included) on the wall to mark the 3 screw positions.
2. Install the 3 screws into the wall.
3. Hook the unit on the screw heads. Fig. 7

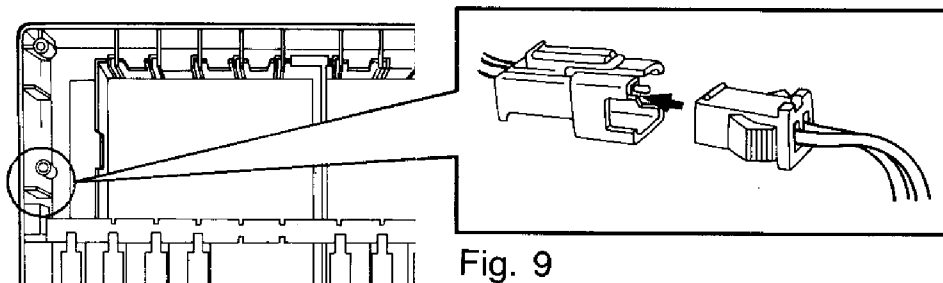


How to remove the front cover from unit

1. Unscrew the front cover of the unit. There are four screws.
2. Open the front cover in the direction of the arrow (A).



Rechargeable Battery Installation



Central Office Line Connection (CO1 through 6)

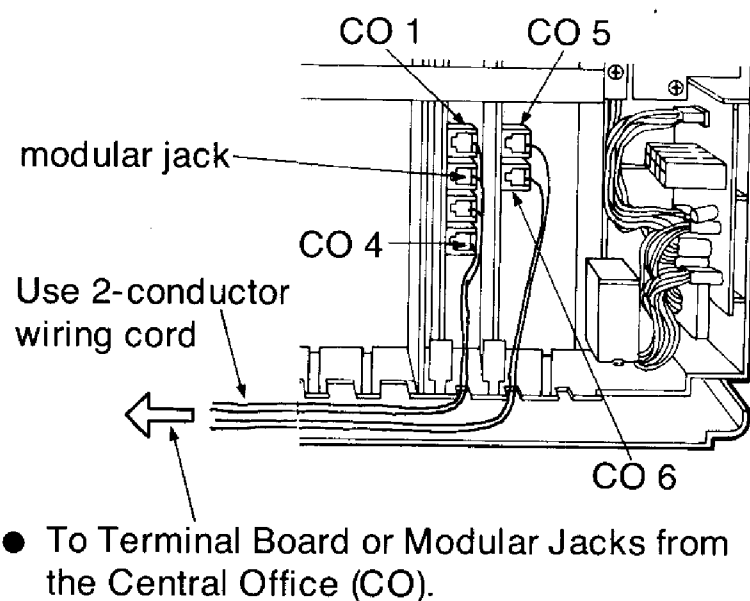
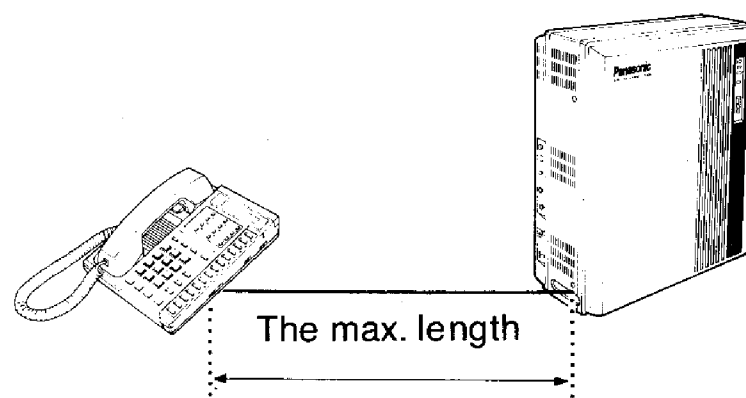
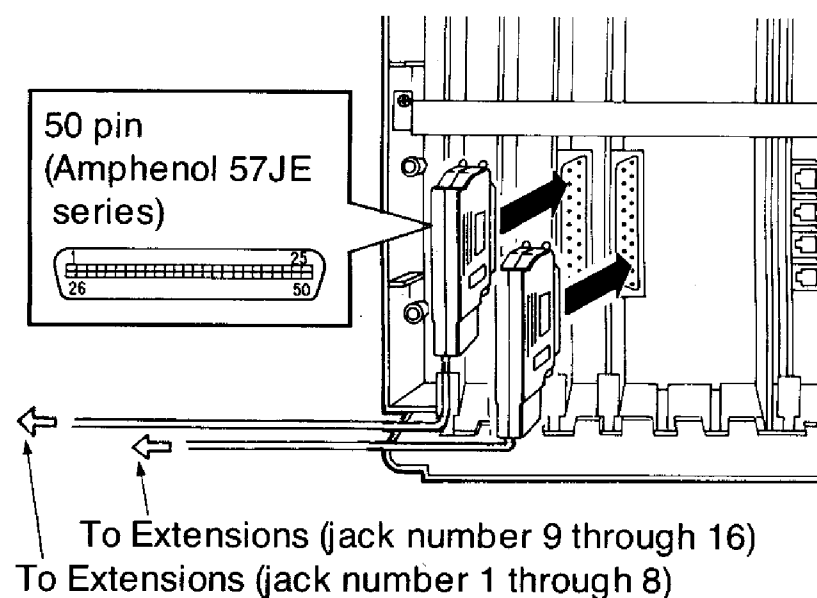


Fig. 10

Extension Connection (Jack number 1 through 16)



Proprietary Telephone	
26 AWG: Under 460 feet	Twisted cable
24 AWG: Under 750 feet	
22 AWG: Under 1180 feet	
Standard Telephone	
26 AWG: Under 2290 feet	Twisted cable
24 AWG: Under 3700 feet	
22 AWG: Under 5900 feet	

Fig. 11

Cable Pin Numbers to be connected

- Connection of the Proprietary Telephone
(4-conductor wiring is required for each extension.)

CONN. PIN	CABLE COLOR	CLIP NO.	LC-1		LC-2					
26 1 27 2 28 3	WHT-BLU BLU-WHT WHT-ORN ORN-WHT WHT-GRN GRN-WHT	1 2 3 4 5 6	JACK NO.1	T R D1 D2	JACK NO.9	T R D1 D2				
29 4 30 5 31 6	WHT-BRN BRN-WHT WHT-SLT SLT-WHT RED-BLU BLU-RED	7 8 9 10 11 12		T R D1 D2		JACK NO.10	T R D1 D2			
32 7 33 8 34 9	RED-ORN ORN-RED RED-GRN GRN-RED RED-BRN BRN-RED	13 14 15 16 17 18		T R D1 D2			JACK NO.11	T R D1 D2		
35 10 36 11 37 12	RED-SLT SLT-RED BLK-BLU BLU-BLK BLK-ORN ORN-BLK	19 20 21 22 23 24		T R D1 D2				JACK NO.12	T R D1 D2	
38 13 39 14 40 15	BLK-GRN GRN-BLK BLK-BRN BRN-BLK BLK-SLT SLT-BLK	25 26 27 28 29 30		T R D1 D2					JACK NO.13	T R D1 D2
41 16 42 17 43 18	YEL-BLU BLU-YEL YEL-ORN ORN-YEL YEL-GRN GRN-YEL	31 32 33 34 35 36		T R D1 D2						JACK NO.14
44 19 45 20 46 21	YEL-BRN BRN-YEL YEL-SLT SLT-YEL VIO-BLU BLU-VIO	37 38 39 40 41 42	T R D1 D2	JACK NO.15	T R D1 D2					
47 22 48 23 49 24	VIO-ORN ORN-VIO VIO-GRN GRN-VIO VIO-BRN BRN-VIO	43 44 45 46 47 48	T R D1 D2		JACK NO.16	T R D1 D2				
50 25	VIO-SLT SLT-VIO	49 50								

T : Tip D1 : Data 1
R : Ring D2 : Data 2

- Connection of a Standard Telephone
(2-conductor wiring is required for each extension.)
Connect the pin number of "T" and "R" only.

Optional Cards Installation

1. To protect the printed circuit board from static electricity, first discharge any body static by touching the metal board.
2. Loosen the screws to remove the metal board.
3. The location of the optional cards for the KX-T123210 is shown in the following.

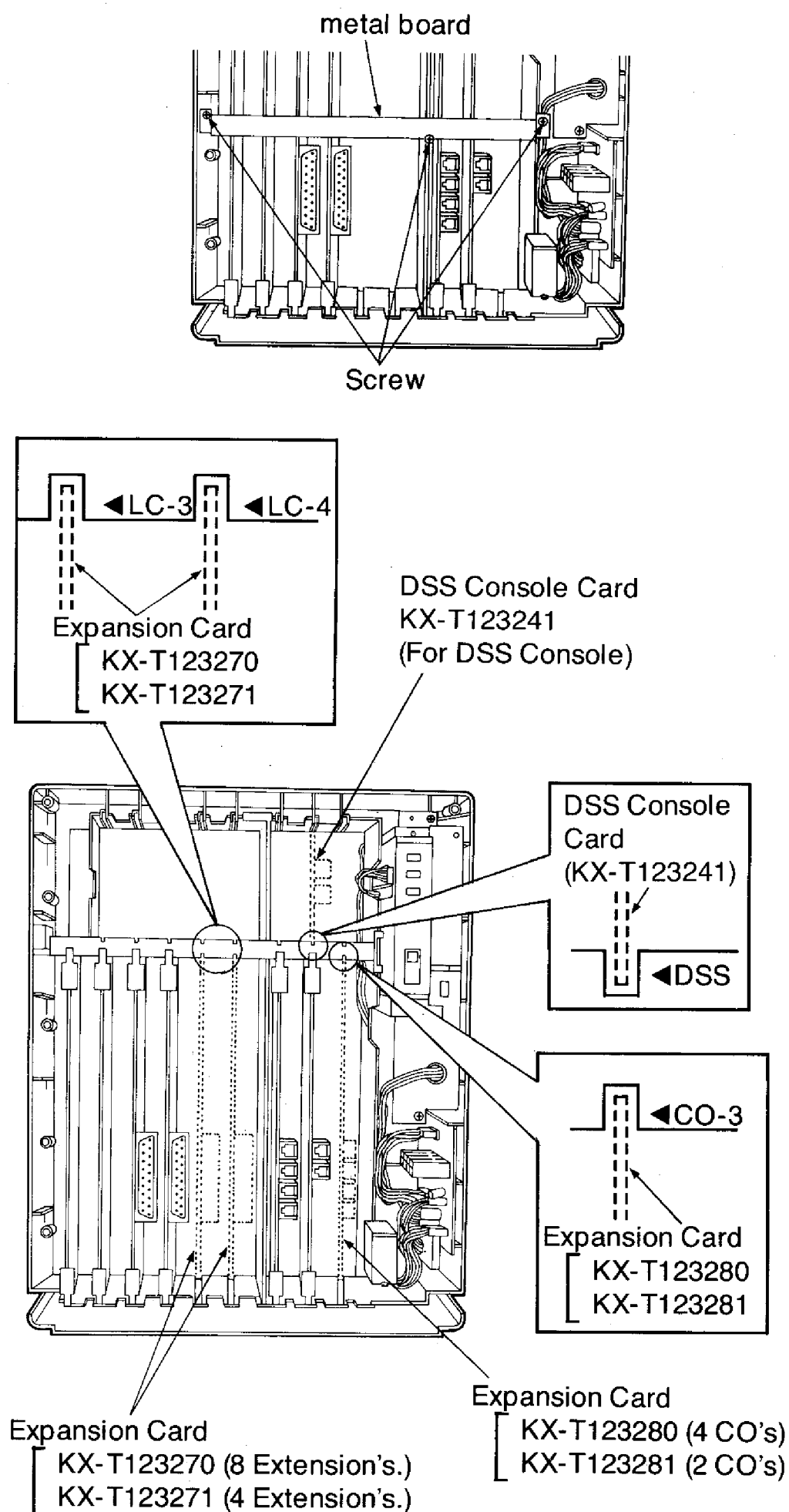


Fig. 12

**Extension Connection
(Jack number 17 through 32) option**

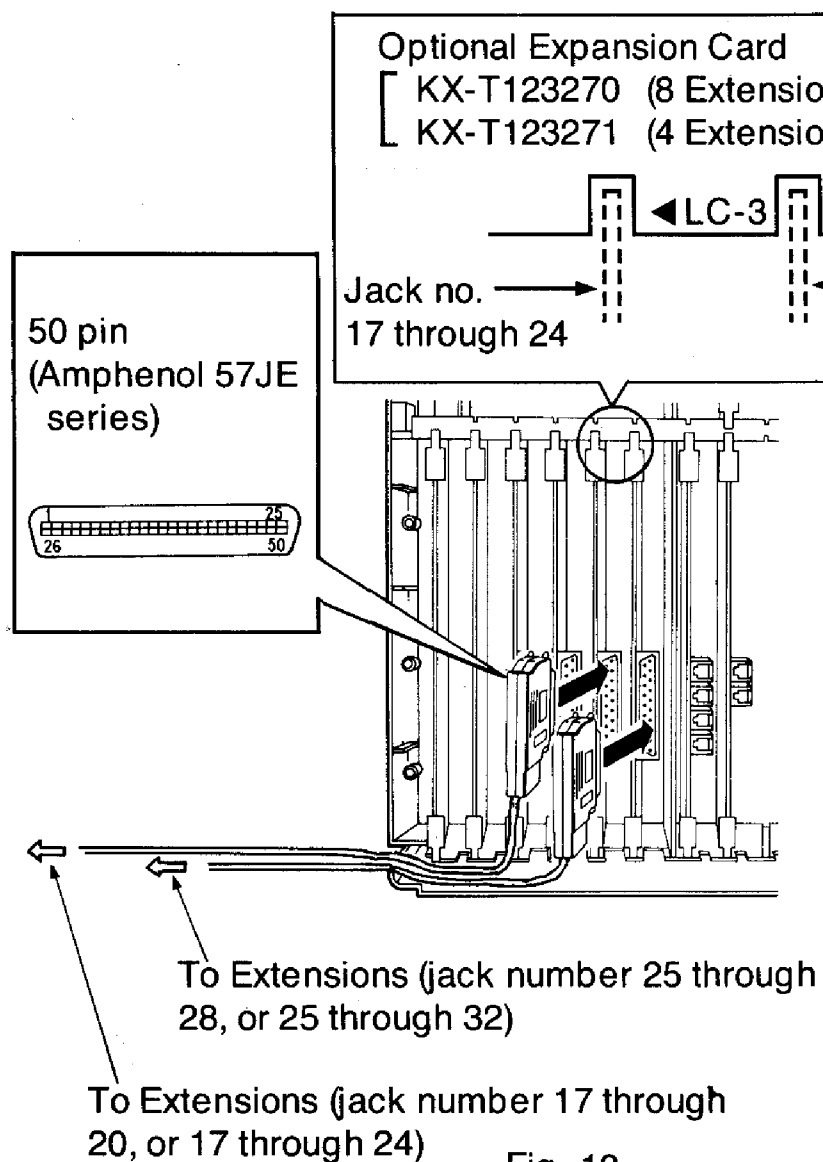


Fig. 13

**Central Office Line Connection
(CO9 through 12) option**

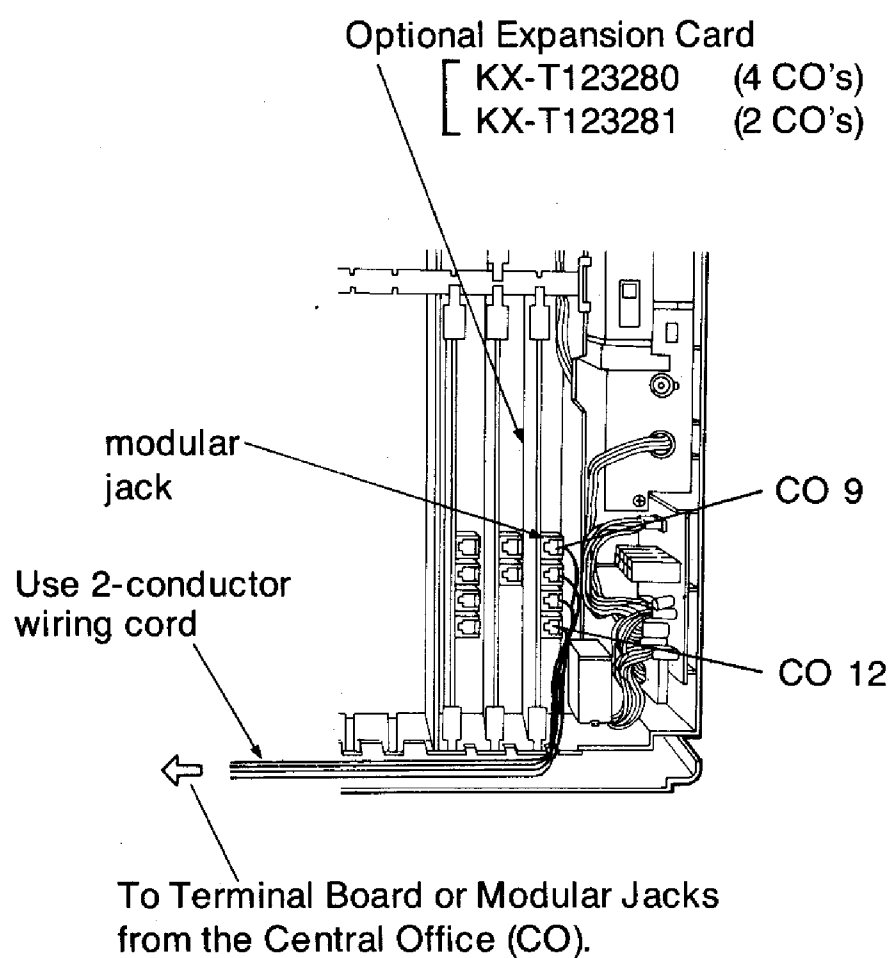
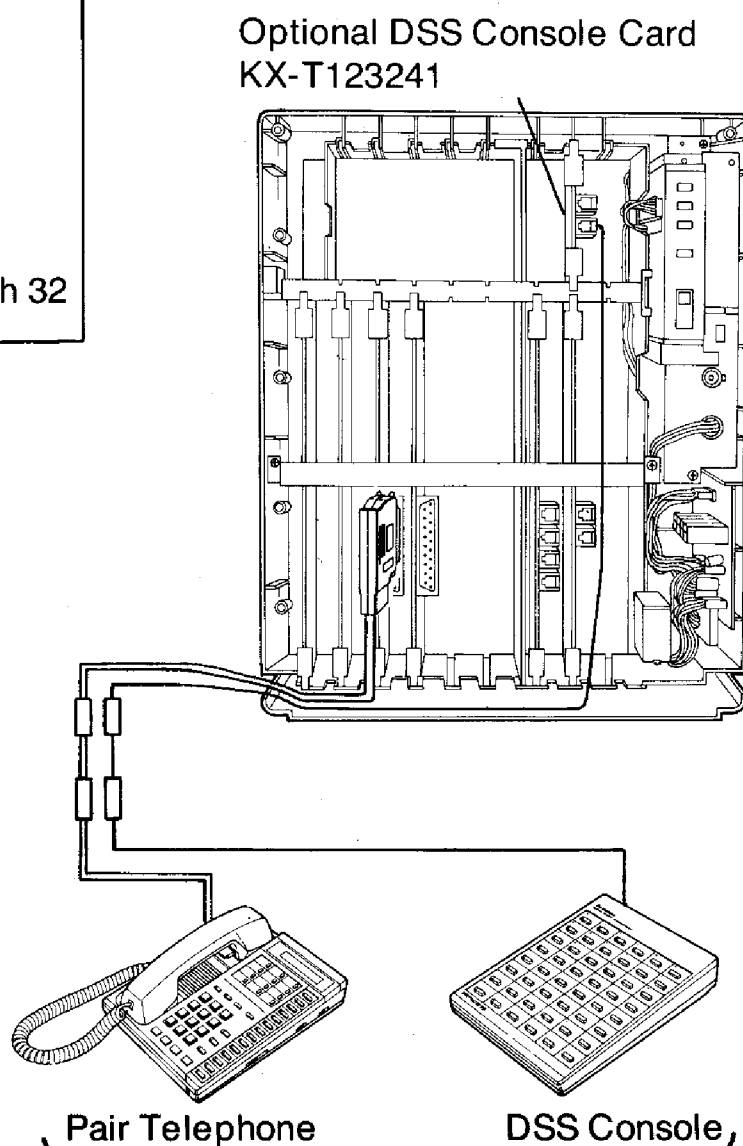


Fig. 14

**Optional DSS Console Connection
(KX-T123240 / KX-T61640)**

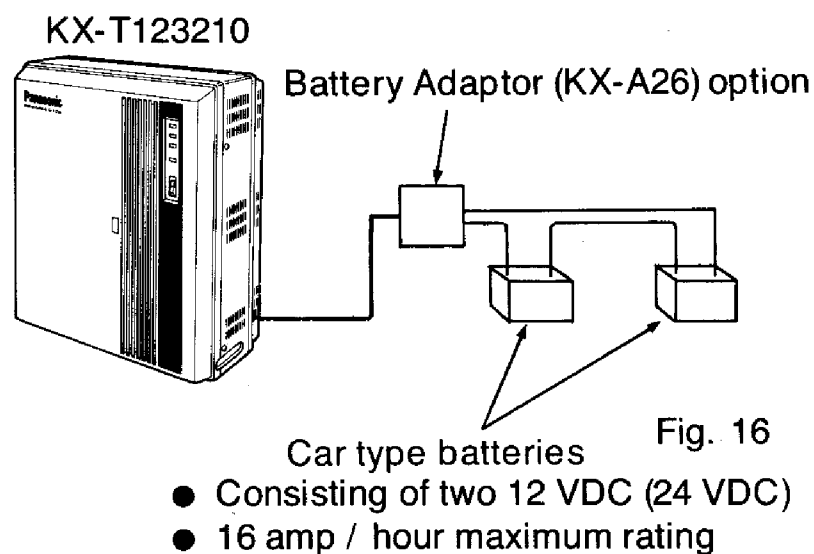


pair

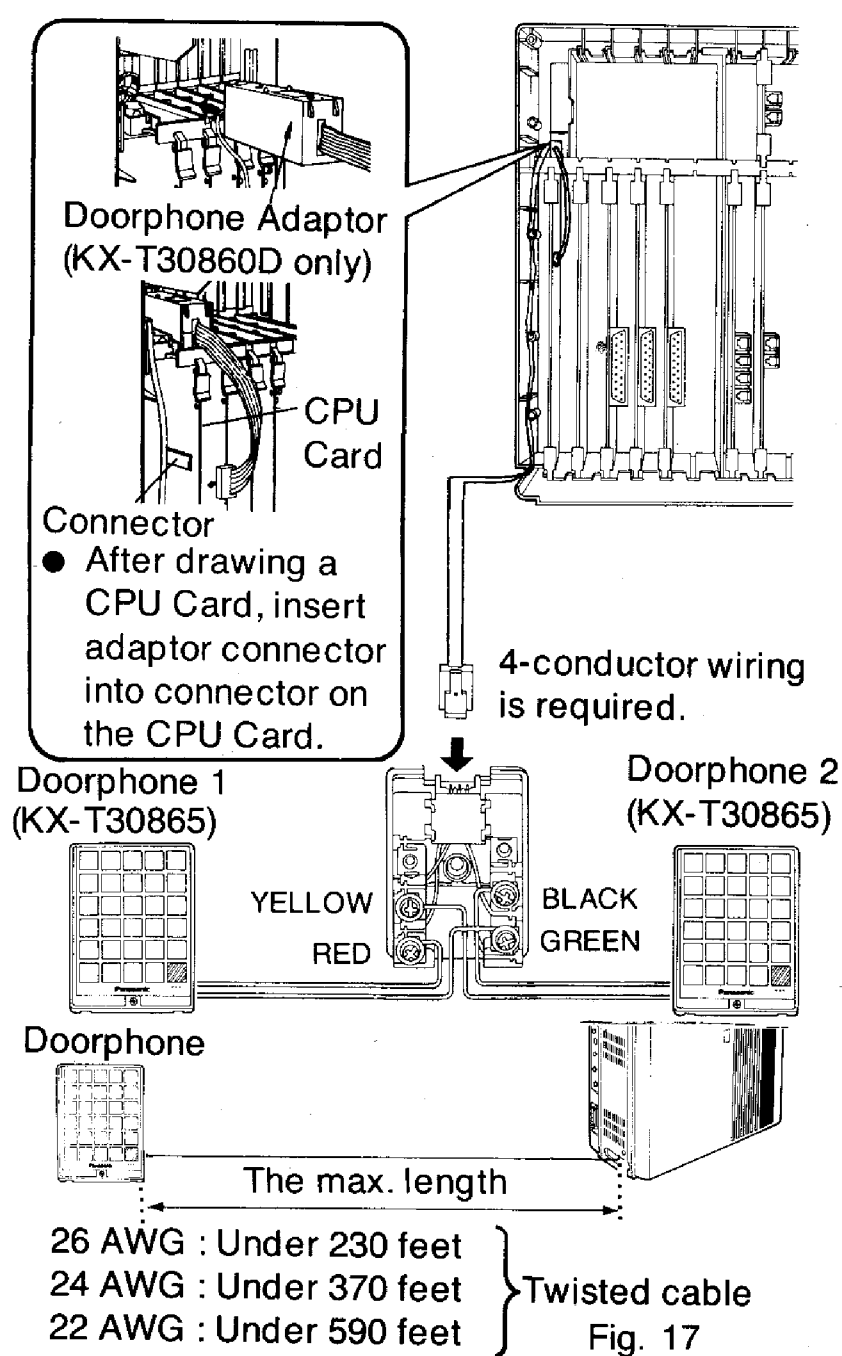
Fig. 15

- The DSS Console (KX-T123240 or KX-T61640) needs a paired Telephone (EMSS Proprietary Telephone) for proper operation, because the DSS console cannot work by itself.
- When using the DSS Console, program must be done.

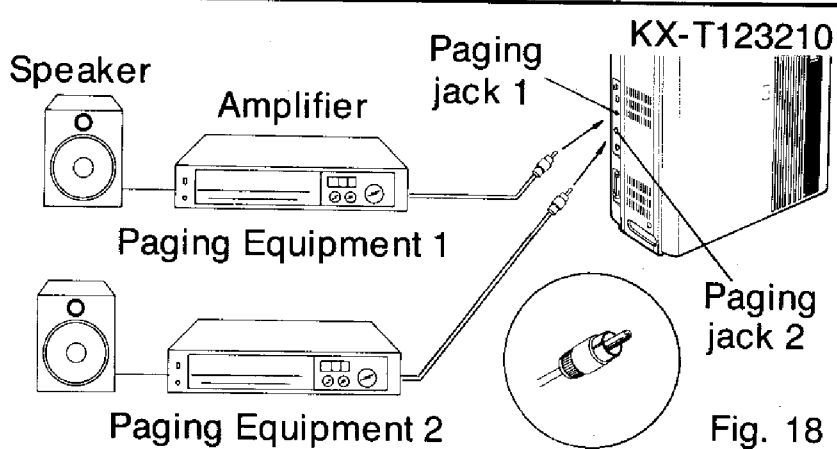
Battery Connection



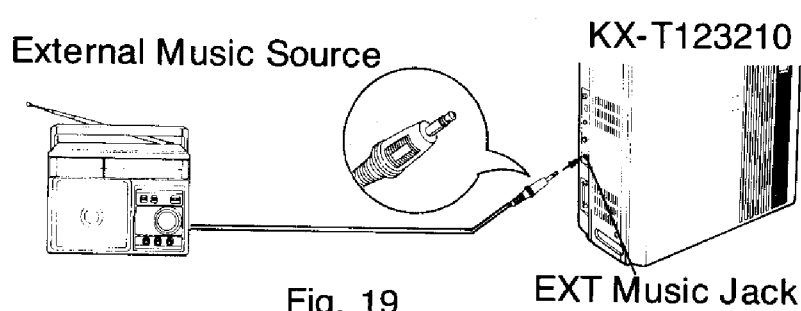
Optional
Doorphone Connection



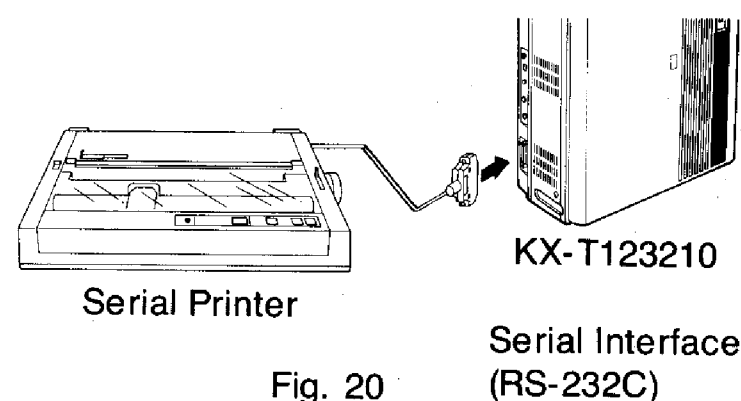
Paging Equipment



External Music Source



Printer Connection



- Cables must be shielded and the maximum length is 6.5 feet.

Connection Chart:
KX-T123210 RS-232C

Circuit Type (EIA)	Signal Name	Pin No.	Pin No.	Signal Name	Circuit Type (EIA)
AA	FG	1	1	FG	AA
BA	TXD	2	3	RXD	BB
BB	RXD	3	2	TXD	BA
CB	CTS	5			
CC	DSR	4,6	20	DTR	CD
AB	SG	7	7	SG	AB
CD	DTR	20	5	CTS	CB
			6	DSR	CC
			8	DCD	CF

Communication parameters

If the Panasonic printer which is used has a (KX-P11D or KX-P17) board and is connected to the KX-T123210, set the communication parameters the following.

	KX-T123210	KX-P11D		KX-P17	
		DIP Switch	Setting	DIP Switch	Setting
Word length	7bit (default)	SW1-1	ON	SW1-4	ON
Parity	Program to "EVEN"	SW1-2	ON	SW1-5	OFF
		SW1-3	ON	SW1-6	OFF
Baud Rate	1200B (default)	SW1-5	ON	SW1-1	OFF
		SW1-6	OFF	SW1-2	OFF
		SW1-7	OFF	SW1-3	ON
		SW1-8	OFF		
Protocol	XON / XOFF mode only	SW2-8	OFF	SW1-8	ON

PROGRAMMING

To activate this system, the requirements from telephone company and the customer must be programmed once the Power Switch has been turned on.

Programming Instructions

1. At extension connected to jack number 01: All system programming changes (example : system clear, toll restriction, system speed dialing entry...) are done through extension connected to jack number 01.

- **Extension connected to jack number 01 must always be a Panasonic model, KX-T123230.**

2. System Program Switch setting:
The System Program Switch located on the KX-T123210 must be set to the "PITS" (Proprietary Integrated Telephone System) position while making program changes. After all programming changes are completed, return the program switch to the "SET" position.

3. Overlay:
This overlay is used for programming the system and the program function names are inscribed on this card.

4. Before system programming, operate the system clear to set to the default data of the program.

System Clear:

- Set the System Program Switch of the KX-T123210 to the "PITS" position.

1. Dial (99).
"System Clear" will be displayed.
2. Press the NEXT button.
3. Repeat pressing the SELECT button until the "Menu: All Para" is displayed.

4. Press the MEMORY button to clear system.

5. To return to the initial program mode, press the END button.

- The following parameters are preset as the default data.

System parameters
CO parameters
Extension parameters
DSS parameters
Speed call

When the System Program Switch on the KX-T123210 is set to the "PITS" position, the operation of the KX-T123230 connected to jack number 01 will change as follows.

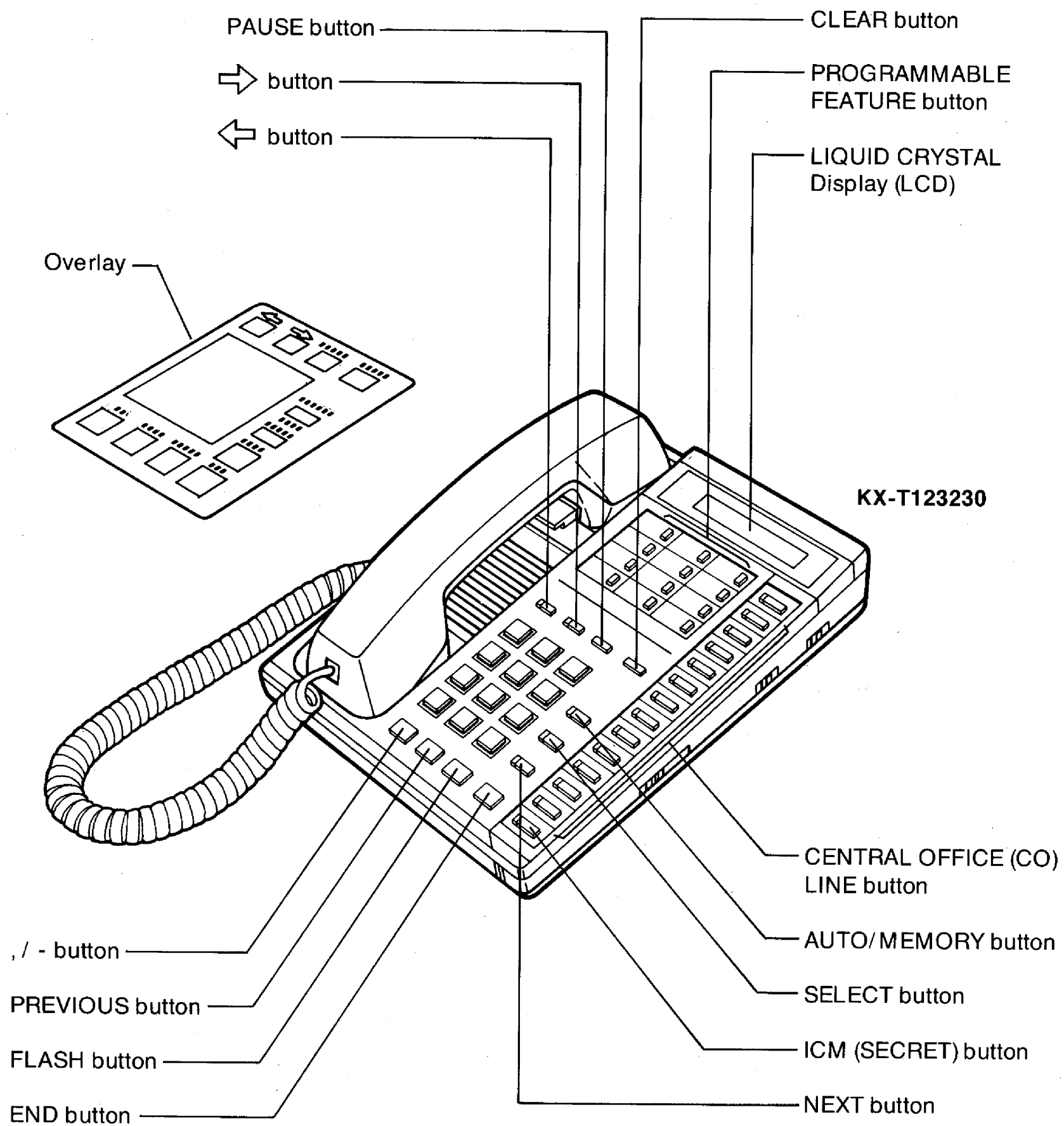


Fig. 21

Example of Programming

1. Turn the Power Switch to ON.
2. Set the System Program Switch to "PITS" position.
The LCD on the KX-T123230 will show "SYS-PGM NO ?→".
 - Be sure the handset of the extension connected to jack number 01 is in the cradle and the speakerphone button off.
3. To program automatic line access number 9 and the phone number 987-654-3210 into speed access code 00.

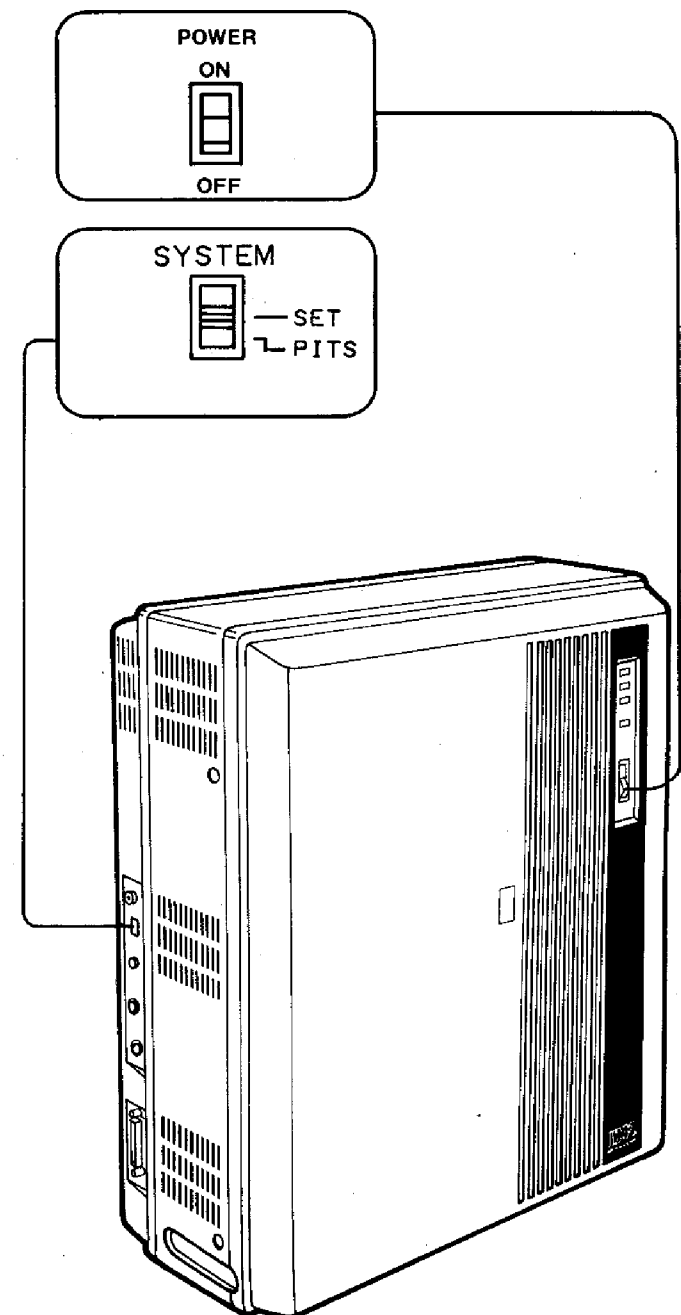


Fig. 22

KX-T123230 at extension connected to jack number 01. (Extension connected to jack number 01 must be a KX-T123230.)		
1.	Dial (01) or press the Auto button.	Display Speed Dialing
2.	Press the NEXT button.	Speed NO? →
3.	Dial (00) or press the NEXT button.	<ul style="list-style-type: none"> ● If nothing is stored in access code "00", 00: Not Stored ● If already stored the automatic line access number 9 and the phone number 123-456-7890, 00: 9-123-456-789
4.	① Dial "9". ② Press "–" button. ③ Dial "987". ④ Press "–" button. ⑤ Dial "654". ⑥ Press "–" button. ⑦ Dial "3210".	00: -987-654-3210
5.	Press the MEMORY button.	00: -987-654-3210
6.	<ul style="list-style-type: none"> ● To program the next access code, press the NEXT button. ● To program a desired access code, press the SELECT button and dial speed access code. 	
7.	Repeat steps 4 to 6.	
8.	To return to the initial program mode, press the END button.	SYS-PGM NO ?→

While programming if a mistake is made,

1. Press the "END" button.
2. Start programming procedure from the beginning.

- You will hear a beep after pressing the MEMORY button.
- The MEMORY indicator light will go on when the MEMORY button is pressed, and then the Indicator light will go out when the NEXT or PREV button is pressed.

4. Return the System Program Switch to "SET" position.
 - To make program change, start from the beginning.

PROGRAMMING TABLE

System Feature

Installation Manual Page

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
Date and Time Setting	00			3-4	
System Speed Dialing Entry	01 or AUTO		Nothing is stored	3-5	7-1
Extension Number Assignment	02		101 : jack number 01 102 : jack number 02 ... 131 : jack number 31 132 : jack number 32	3-8	7-3
Operator Assignment	03		Nothing is stored	3-9	7-3
Paired Telephone Assignment for DSS Console	04		jack number 01 : console 1 jack number 02 : console 2	3-10	7-3
Automatic CO Hold Using DSS Button	05		With Transfer	3-11	7-3
Day/Night Service Mode	06		Manual	3-12	7-4
Switching of Service Mode Starting Time	07		Day Service : 9:00AM Night Service : 5:00PM	3-13	7-4
Call Hunting Setting	08		Disable : all 8 extension groups	3-15	7-4
Hunting Type	09		Terminate : all 8 extension groups	3-16	7-4

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
Toll Restriction Area Type Selection	10	NEXT SELECT MEMORY END Type A / Type B / Type C	Type A	3-18	7-4
CO Operator Call-Boundary Class	11	NEXT A MEMORY END dial the boundary class number (1 through 8)	Class 1	3-19	7-4
Toll Restriction of Speed Dialing	12	NEXT SELECT MEMORY END Restriction / No restriction	Restriction	3-20	7-5
Exchange Code Selection	13	NEXT NEXT CDE MEMORY END exchange code with 3 digits until the desired memory code number appears	Nothing is stored	3-21	7-5
Area Code Entry for class 3	14	NEXT NEXT CDE MEMORY END area code with 3 digits until the desired memory code number appears	Nothing is stored	3-22	7-5
Exchange Code Entry for Class 5	15	NEXT NEXT CDE MEMORY END exchange code with 3 digits until the desired memory code number appears	Nothing is stored	3-23	7-5
Exchange Code Entry for Class 7	16	NEXT NEXT CDE MEMORY END exchange code with 3 digits until the desired memory code number appears	Nothing is stored	3-24	7-6

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Hold Time Reminder	17	Refer to page 3-25	7-6
Hold Recall Time Set	18	Refer to page 3-26	7-6
Transfer Recall Time	19	Refer to page 3-27	7-6
Call Forwarding Starting Time	20	Refer to page 3-28	7-6
Pickup Dial Delay Time	21	Refer to page 3-29	7-6
CO-to-CO Duration Time Limit	22	Refer to page 3-30	7-7
External Paging Access Tone	29	Refer to page 3-41	7-9

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
SMDR RS-232C Communication Parameters	23	Refer to page 3-32	7-7
SMDR Parameters	24	Refer to page 3-35	7-8
Incoming/Outgoing call Selection for printing	25	Refer to page 3-36	7-8
Secret Speed dial/One Touch Dial Printing	26	Refer to page 3-36	7-8
System Data Dump	27	Refer to page 3-37	7-8
Duration Time Count Start Mode	28	Refer to page 3-40	7-9

Outside Line Feature

Installation Manual Page

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
CO Connection Assignment	40	<p>Connect / Not Connect</p> <p>until the desired CO number appears</p>	Connect : all CO's	3-42	7-9
Dial Mode (DTMF/Pulse) DTMF / Pulse Selection	41	<p>DTMF Mode / Pulse Mode</p> <p>until the desired CO number appears</p>	DTMF : all CO's	3-43	7-9
Pulse Speed Selection	42	<p>Low Speed / High Speed</p> <p>until the desired CO number appears</p>	Low speed : all CO's	3-44	7-9
Trunk Group Assignment	44	<p>dial the trunk group number (1 through 8)</p> <p>until the desired CO number appears</p>	Trunk-G1 : CO 1 Trunk-G2 : CO 2 Trunk-G3 : CO 3 Trunk-G4 : CO 4 Trunk-G5 : CO 5 Trunk-G6 : CO 6 Trunk-G7 : CO 7 Trunk-G8 : CO 8, CO 9 CO 10, CO 11 CO 12	3-46	7-10
Flexible Outward Dialing Assignment Day Mode	45	<p>other CO number</p> <p>other jack number</p> <p>Enable / Disable</p> <p>until the desired jack number appears</p> <p>until the desired CO number appears</p>	Enable : all jack numbers	3-47	7-11
Night Mode	46	<p>other CO number</p> <p>other jack number</p> <p>Enable / Disable</p> <p>until the desired jack number appears</p> <p>until the desired CO number appears</p>	Enable : all jack numbers	3-48	7-12
Flexible Ringing Assignment Day Mode	47	<p>other CO number</p> <p>other jack number</p> <p>Enable / Disable</p> <p>until the desired jack number appears</p> <p>until the desired CO number appears</p>	Enable : all jack numbers	3-49	7-13
Night Mode	48	<p>other CO number</p> <p>other jack number</p> <p>Enable / Disable</p> <p>until the desired jack number appears</p> <p>until the desired CO number appears</p>	Enable : all jack numbers	3-51	7-14

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
CO Direct In Line Assignment Day Mode	51	<ul style="list-style-type: none"> • Selecting "Normal" mode Normal until the desired CO number appears • Selecting "DIL" mode DIL Dial jack number until the desired CO number appears 	Normal : all CO's	3-54	7-19
Night Mode	52	<ul style="list-style-type: none"> • Selecting "Normal" mode Normal until the desired CO number appears • Selecting "DIL" mode DIL Dial jack number until the desired CO number appears 	Normal : all CO's	3-57	7-19

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE	TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Host PBX Access Codes Assignment	43	Refer to page 3-45	7-10	Pause Time Assignment	53	Refer to page 3-59	7-20
Delayed Ringing Assignment	49	Refer to page 3-52	7-15 7-16	Hookswitch Flash Timing	54	Refer to page 3-60	7-20
Day Mode				Calling Party Control (CPC) Signal	55	Refer to page 3-61	7-20
Night Mode	50	Refer to page 3-53	7-17 7-18	Disconnect Time	56	Refer to page 3-62	7-20

Extension Feature

Installation Manual Page

Installation Manual Page

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
Extension Group Assignment	60	 dial the extension group number (1 through 8)until the desired jack number appears	EXT GRP-1 : all jack numbers	3-63	7-21
Call Transfer To Outside Line	65	 Enable / Disableuntil the desired jack number appears	Disable : all jack numbers	3-71	7-23

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
Service Class Assignment of Toll Restriction Day Mode	61		Class 1 : all jack numbers	3-64	7-21
Night Mode	62		Class 1 : all jack numbers	3-66	7-22
Call Forwarding To Outside Line	66		Disable : all jack numbers	3-72	7-23
Executive Override	67		Disable : all jack numbers	3-73	7-23
Do not Disturb Override	68		Disable : all jack numbers	3-74	7-24

TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE	TO SET	PROGRAM ADDRESS	PROGRAMMING	PROGRAM TABLE
Extension Name	63	Refer to page 3-68	7-1	Ringing Assignment from Doorphone Day Mode	70	Refer to page 3-75	7-24
Account Code Input Mode	64	Refer to page 3-70	7-22	Night Mode	71	Refer to page 3-76	7-25

TO SET	PROGRAM ADDRESS	STEPS REQUIRED TO CHANGE PROGRAM	DEFAULT	PAGE	
				FOR DETAILS	PROGRAM TABLE
System Data Clear	99	<ul style="list-style-type: none"> ● All Parameters ● System Parameter ● Speed Call <ul style="list-style-type: none"> ● CO Parameter <ul style="list-style-type: none"> ● EXT Parameter <ul style="list-style-type: none"> ● DSS Parameter 	All Parameters	3-78	

FOR SERVICE TECHNICIANS

ICs and LSIs are vulnerable to static electricity.

When repairing, the following precautions will help prevent recurring malfunctions.

- *Cover plastic parts boxes with aluminum foil.
- *Ground soldering irons.
- *Use a conductive mat on worktable.
- *Do not grasp IC or LSI pins with bare fingers.

DISASSEMBLY INSTRUCTIONS

1. HOW TO REMOVE THE FRONT CABINET

- 1) Remove the four screws (A).
- 2) Remove the front cabinet.

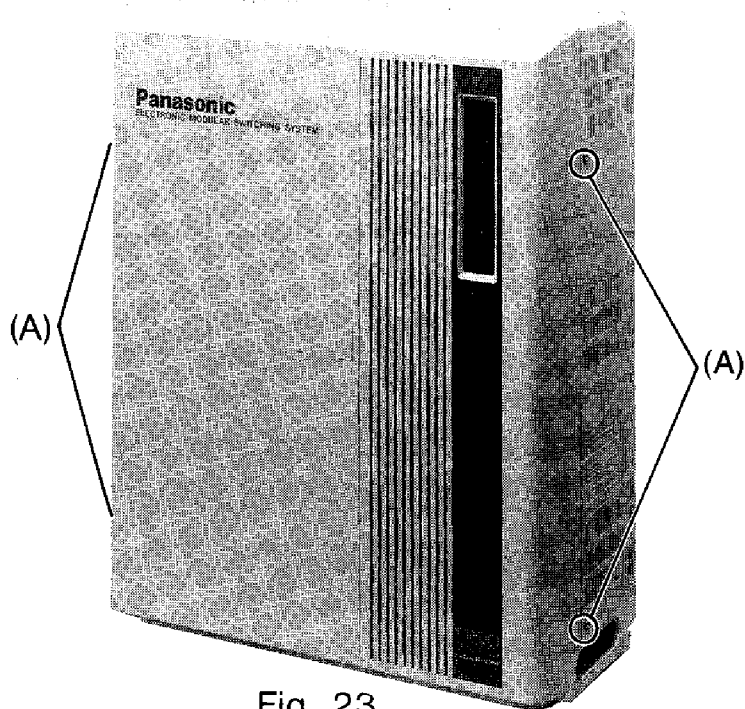


Fig. 23

2. HOW TO REMOVE THE EACH BOARDS

- 1) Remove the three screws (B).
- 2) Remove the angle.
- 3) Remove the board.
- 4) When attach the board, be sure lock the board.

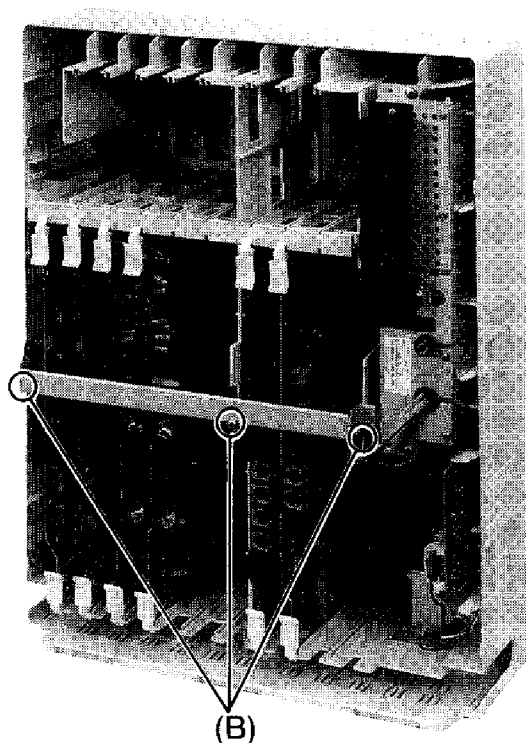


Fig. 24

3. HOW TO REMOVE THE MAIN BOARD

- 1) Remove the nine screws (C).
- 2) Remove the rear cover.
- 3) Remove the fourteen screws (D).
- 4) Pull out the five connectors of power board and power unit. (Refer to Fig. 27)

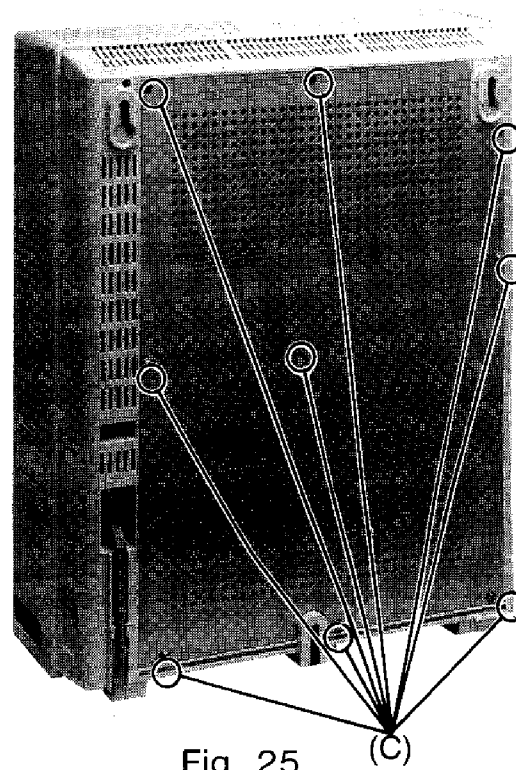


Fig. 25

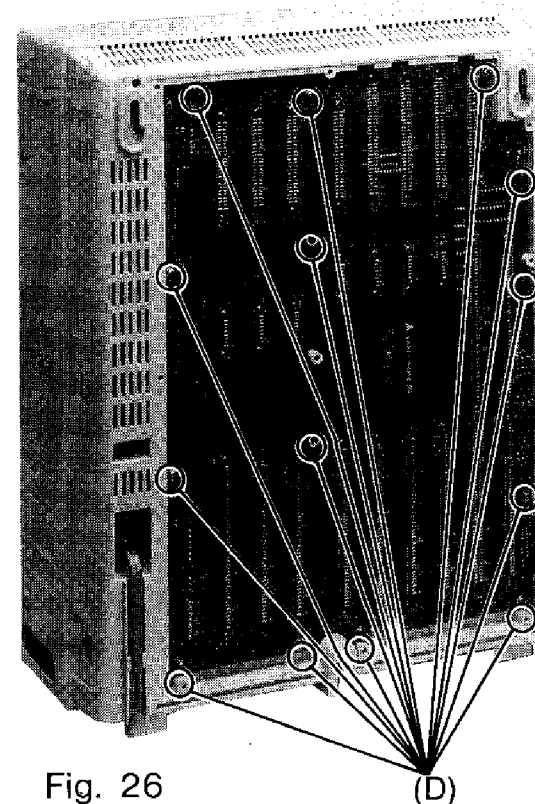


Fig. 26

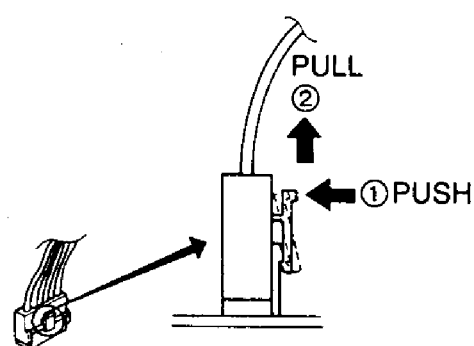


Fig. 27

4. HOW TO REMOVE THE POWER BOARD

- 1) Pull out the five connectors. (Refer to Fig.27)
- 2) Remove the power board.

5. HOW TO DISASSEMBLY THE POWER UNIT

- 1) Remove the two screws (E).
- 2) Pull out the two connectors.
- 3) Remove the power unit.
- 4) Remove the twelve screws (F).
- 5) Remove the three screws (G).
- 6) Remove the cover.
- 7) Remove the seven screws (H).
- 8) Remove the board.

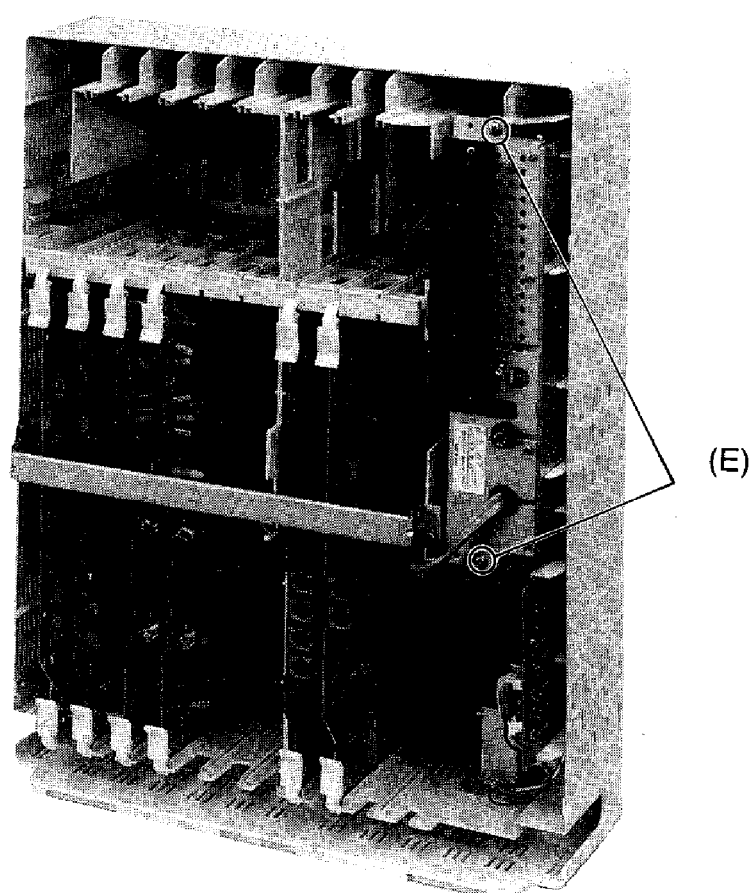


Fig. 28

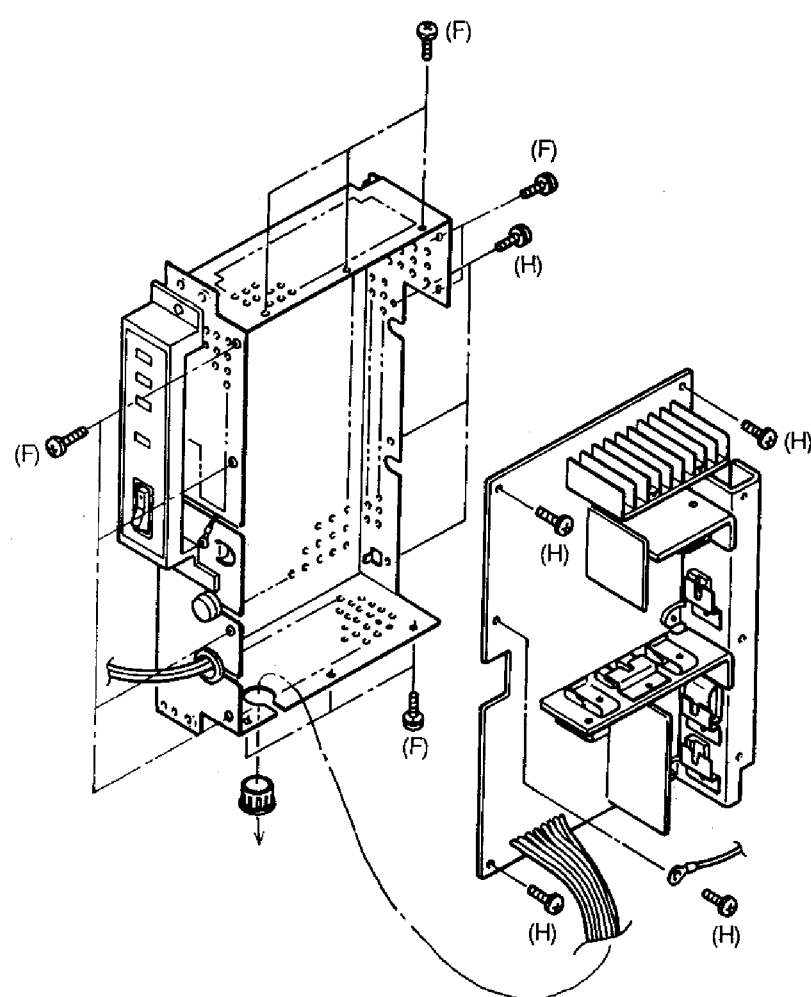
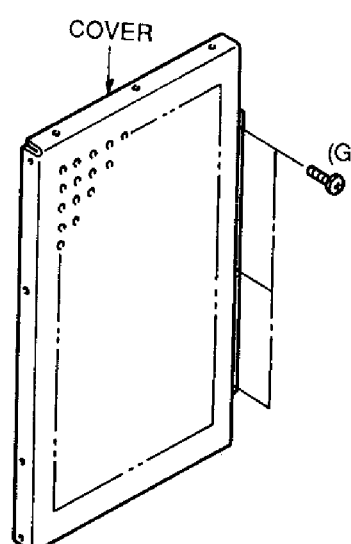


Fig. 29



IC I/O DATA

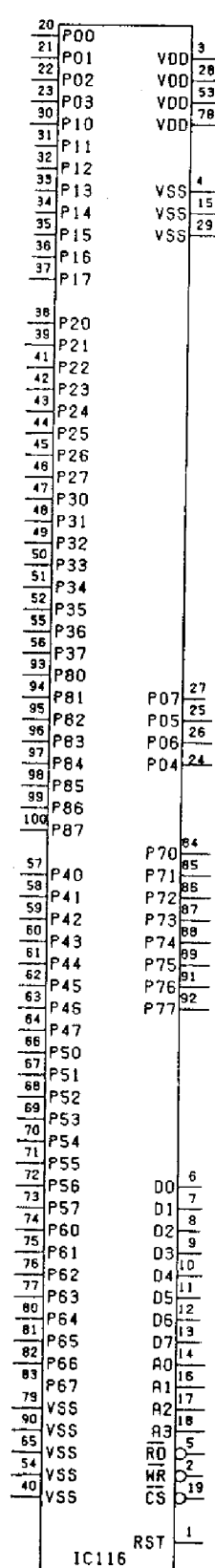
IC116

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
20	P00	DAY	O	*1	H	Day Mode LED
21	P01	NIGHT	O	*1	H	Night Mode LED
22	P02	HALT	O	H	L	DISA CPU HALT
23	P03	RESET	O	H	L	CPR Reset : Watch Dog Control
24	P04	INT	O	L	L	350, 440, 620 Hz Tone Send, CPU Start/Stop Control
25	P05	STOP	O	H	L	CPR HALT: Momentary Power Failures Response
26	P06	RSDOWN	O	H	L	RS-232C Driver Power Down Control
27	P07	-----	---	---	---	Not Used
30	P10	CNMD	I	---	L	Optional Modem Card Existence Detection
31	P11	CNDISA	I	---	L	Optional DISA Card Existence Detection
32	P12	-----	---	---	---	Not Used
33	P13	-----	---	---	---	Not Used
34	P14	-----	---	---	---	Not Used
35	P15	-----	---	---	---	Not Used
36	P16	-----	---	---	---	Not Used
37	P17	CNDIAG	I	---	L	Optional Diagnosis Card Existence Detection
38	P20	-----	---	---	---	Not Used
39	P21	-----	---	---	---	Not Used
41	P22	-----	---	---	---	Not Used
42	P23	-----	---	---	---	Not Used
43	P24	-----	---	---	---	Not Used
44	P25	-----	---	---	---	Not Used
45	P26	-----	---	---	---	Not Used
46	P27	CNXP	I	---	L	Cross Point Card Existence Detection
47	P30	PDRLY1	O	L	H	Extension Card 1 Extension 1 Power Failure Relay
48	P31	PDRLY2	O	L	H	Extension Card 1 Extension 2 Power Failure Relay
49	P32	PDRLY3	O	L	H	Extension Card 2 Extension 9 Power Failure Relay
50	P33	PDRLY4	O	L	H	Extension Card 2 Extension 10 Power Failure Relay
51	P34	PDRLY5	O	L	H	Extension Card 3 Extension 17 Power Failure Relay
52	P35	PDRLY6	O	L	H	Extension Card 3 Extension 18 Power Failure Relay
55	P36	-----	---	---	---	Not Used
56	P37	-----	---	---	---	Not Used
57	P40	POW 1	O	H	L	DTMF G Control
58	P41	POW 2	O	H	L	DTMF G Control
59	P42	POW 3	O	H	L	DTMF G Control
60	P43	POW 4	O	H	L	DTMF G Control
61	P44	COL 1	O	H	L	DTMF G Control
62	P45	COL 2	O	H	L	DTMF G Control
63	P46	COL 3	O	H	L	DTMF G Control
64	P47	COL 4	O	H	L	DTMF G Control
66	P50	STD 1	I	---	H	DTMF R1 Signal Receive Detection
67	P51	STD 2	I	---	H	DTMF R2 Signal Receive Detection
68	P52	STD 3	I	---	H	DTMF R3 Signal Receive Detection
69	P53	-----	---	---	---	Not Used
70	P54	SS	I	---	L	RS-232C
71	P55	DCD	I	---	L	RS-232C
72	P56	PDSIG	I	---	L	AC Power Down
73	P57	DROP2	I	---	L	Optional Doorphone Card Existence Detection
74	P60	CNCT1	I	---	H	Doorphone 1 Connect Detection
75	P61	CNCT2	I	---	H	Doorphone 2 Connect Detection
76	P62	DHK1	I	---	H	Doorphone 1 Switch Detection
77	P63	DHK2	I	---	H	Doorphone 2 Switch Detection
80	P64	BUSY1	O	H	L	Doorphone 1 Power Supply Control
81	P65	BUST2	O	H	L	Doorphone 2 Power Supply Control
82	P66	20 Hz	O	H	20Hz	Extension Bell Signal
83	P67	SCA	O	L	L	RS-232C

*1: Be based on operate condition.

IC116

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
84	P70	-----	---	---	---	Not Used
85	P71	-----	---	---	---	Not Used
86	P72	-----	---	---	---	Not Used
87	P73	-----	---	---	---	Not Used
88	P74	TEST1	I	---	L	Test Input 1 (Not Used)
89	P75	TEST2	I	---	L	Test Input 2 (Not Used)
91	P76	PRG1	I	---	L	PITS Program Mode
92	P77	PRG2	I	---	L	EIA Program Mode
93	P80	-----	---	---	---	Not Used
94	P81	-----	---	---	---	Not Used
95	P82	-----	---	---	---	Not Used
96	P83	-----	---	---	---	Not Used
97	P84	PDRLY7	O	L	H	Extension Card 4 Extension 25, 26 Power Failure Relay
98	P85	DRLY1	O	L	H	Diagnosis Card Relay 1
99	P86	DRLY2	O	L	H	Diagnosis Card Relay 2
100	P87	DRLY3	O	L	H	Diagnosis Card Relay 3



IC204

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
4	P00	CF1	O	H	L	Conference Call Switch COL1
5	P01	MT1	O	H	H	Mute Switch COL1
6	P02	DL1	O	L	H	Dial Relay COL1
7	P03	DS1	O	L	H	Spark Erase Relay COL1
8	P04	SH1	O	L	L	Shunt Switch COL1
9	P05	BR1	O	H	H	Oscillate Prevent Switch COL1
10	P06	DIG1	O	L	H	Diagnosis Relay COL1
11	P07	BELL1	I	---	*1	Bell/CPC 400 msec Input COL1
13	P10	CF2	O	H	L	Conference Call Switch COL2
14	P11	MT2	O	H	H	Mute Switch COL2
15	P12	DL2	O	L	H	Dial Relay COL2
16	P13	DS2	O	L	H	Spark Erase Relay COL2
17	P14	SH2	O	L	H	Shunt Switch COL2
18	P15	BR2	O	H	H	Oscillate Prevent Switch COL2
19	P16	DIG2	O	L	H	Diagnosis Relay COL2
20	P17	BELL2	I	---	*1	Bell/CPC 400 msec Input COL2
21	P20	CF3	O	H	L	Conference Call Switch COL3
24	P21	MT3	O	H	H	Mute Switch COL3
25	P22	DL3	O	L	H	Dial Relay COL3
26	P23	DS3	O	L	H	Spark Erase Relay COL3
27	P24	SH3	O	L	L	Shunt Switch COL3
28	P25	BR3	O	H	H	Oscillate Prevent Switch COL3
29	P26	DIG3	O	L	H	Diagnosis Relay COL3
30	P27	BELL3	I	---	*1	Bell/CPC 400 msec Input COL3
31	P60	CODE1	I	---	*2	Card Classification Code 1
32	P61	CODE2	I	---	*2	Card Classification Code 2
34	P62	CODE3	I	---	*2	Card Classification Code 3
35	P63	CODE4	I	---	*2	Card Classification Code 4
36	P30	CF4	O	H	L	Conference Call Switch COL4
37	P31	MT4	O	H	H	Mute Switch COL4
38	P32	DL4	O	L	H	Dial Relay COL4
39	P33	DS4	O	L	H	Spark Erase Relay COL4
40	P34	SH4	O	L	L	Shunt Switch COL4
41	P35	BR4	O	H	H	Oscillate Prevent Switch COL4
44	P36	DIG4	O	L	H	Diagnosis Relay COL4
45	P37	BELL4	I	---	*1	Bell/CPC 400 msec Input COL4
46	P40	CPC01	I	---	L	CPC 6.5 msec Detection COL1
47	P41	CPC2	I	---	L	CPC 6.5 msec Detection COL2
48	P42	CPC3	I	---	L	CPC 6.5 msec Detection COL3
49	P43	CPC4	I	---	L	CPC 6.5 msec Detection COL4
50	P44	----	---	---	---	Not Used
51	P45	----	---	---	---	Not Used
52	P46	----	---	---	---	Not Used
53	P47	----	---	---	---	Not Used
55	P50	----	---	---	---	Not Used
56	P51	----	---	---	---	Not Used
57	P52	----	---	---	---	Not Used
58	P53	----	---	---	---	Not Used
59	P54	----	---	---	---	Not Used
60	P55	----	---	---	---	Not Used
61	P56	----	---	---	---	Not Used
64	P57	----	---	---	---	Not Used

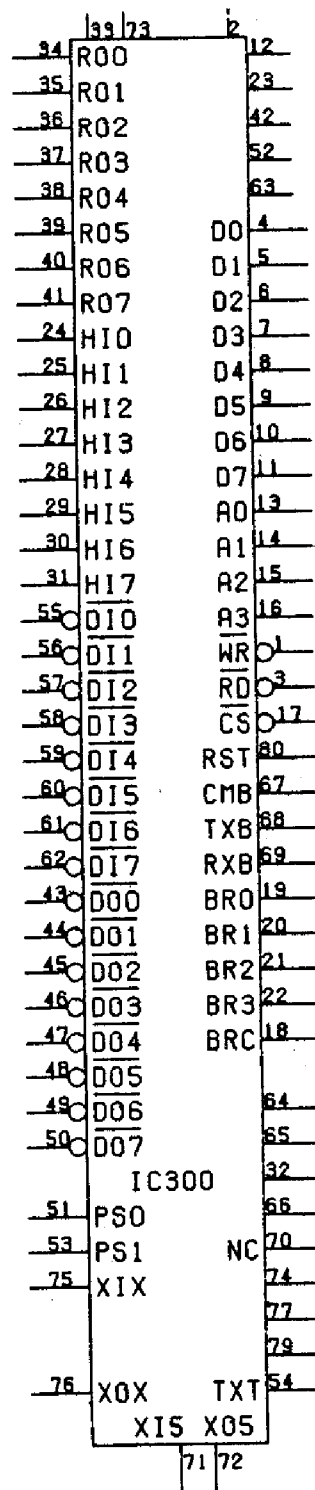
*1: BELL Active...L CPC Active...H

*2: Be based on classification code.

4	P00	\overline{RD}	66
5	P01	\overline{WR}	65
6	P02	\overline{CS}	67
7	P03		
8	P04		
9	P05		
10	P06	D0	68
11	P07	D1	69
		D2	70
		D3	71
		D4	72
13	P10	D5	74
14	P11	D6	75
15	P12	D7	76
16	P13		
17	P14		
18	P15		
19	P16		
20	P17		
		RST	1
	IC204		
21	P20		
24	P21		
25	P22		
26	P23		
27	P24	A0	77
28	P25		
29	P26	A1	78
30	P27		
		A2	79
		A3	80
36	P30		
37	P31		
38	P32		
39	P33		
40	P34		
41	P35	VDD	33
44	P36	VDD	73
45	P37		
		VSS	2
46	P40	VSS	12
47	P41	VSS	23
48	P42	VSS	42
49	P43	VSS	52
		VSS	63
31	P60		
32	P61		
34	P62		
35	P63		

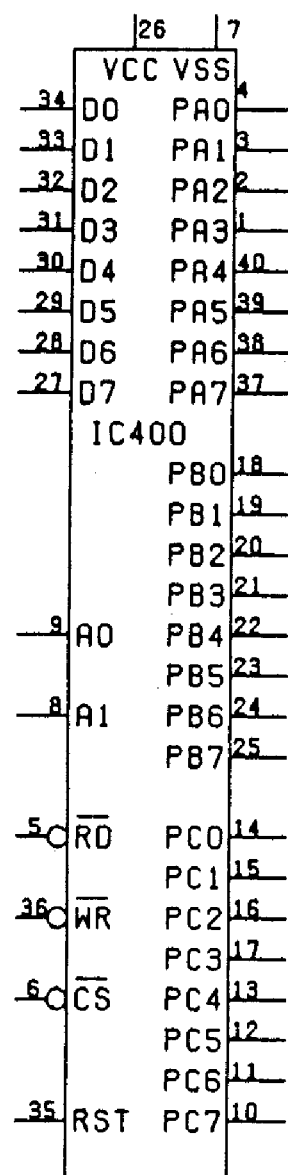
IC300

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
24	HI0	HOOK1	I	---	L	HOOK Detection Extension 1
25	HI1	HOOK2	I	---	L	HOOK Detection Extension 2
26	HI2	HOOK3	I	---	L	HOOK Detection Extension 3
27	HI3	HOOK4	I	---	L	HOOK Detection Extension 4
28	HI4	HOOK5	I	---	L	HOOK Detection Extension 5
29	HI5	HOOK6	I	---	L	HOOK Detection Extension 6
30	HI6	HOOK7	I	---	L	HOOK Detection Extension 7
31	HI7	HOOK8	I	---	L	HOOK Detection Extension 8
34	R00	RING1	O	L	H	Bell Relay Extension 1
35	R01	RING2	O	L	H	Bell Relay Extension 2
36	R02	RING3	O	L	H	Bell Relay Extension 3
37	R03	RING4	O	L	H	Bell Relay Extension 4
38	R04	RING5	O	L	H	Bell Relay Extension 5
39	R05	RING6	O	L	H	Bell Relay Extension 6
40	R06	RING7	O	L	H	Bell Relay Extension 7
41	R07	RING8	O	L	H	Bell Relay Extension 8

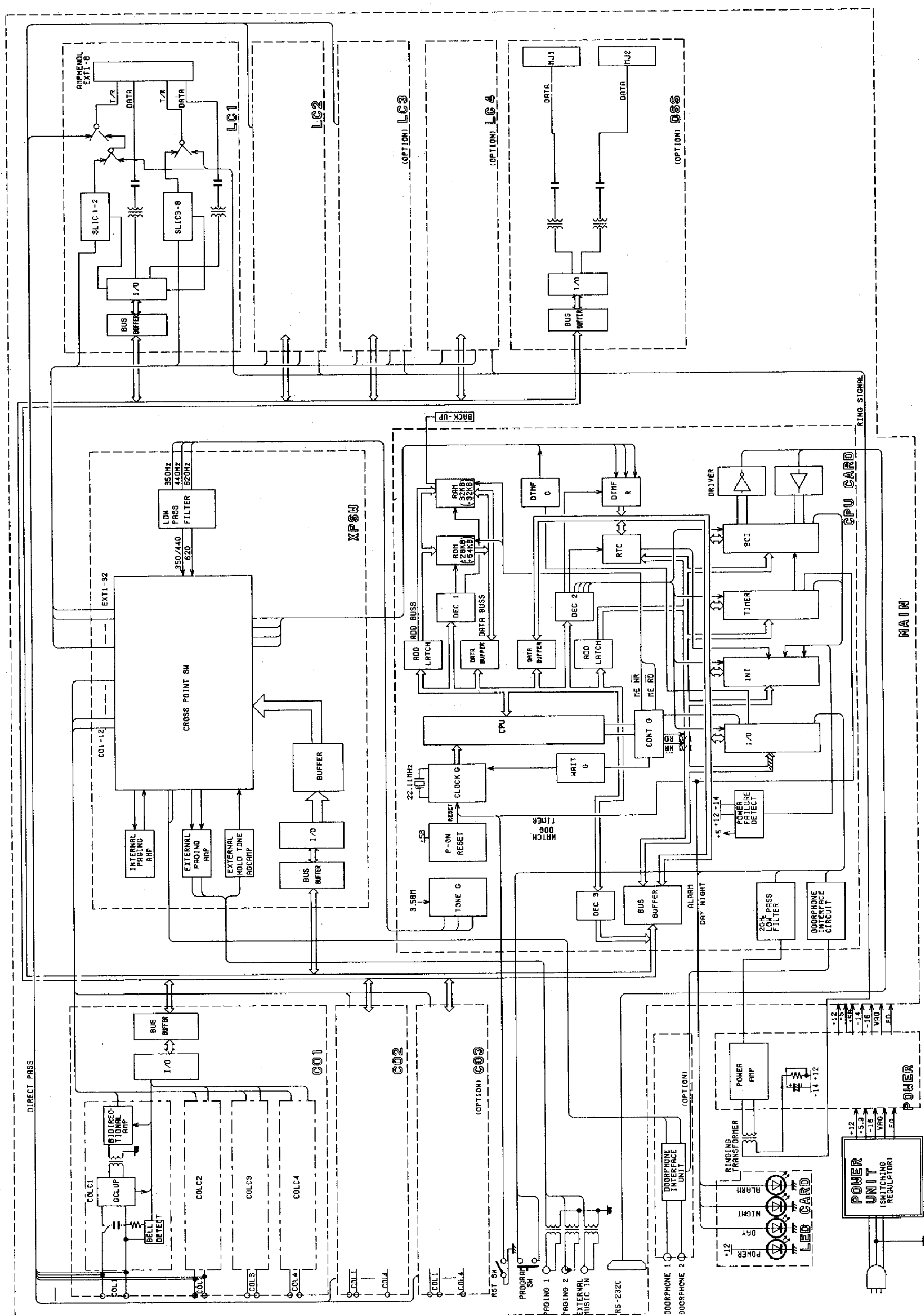


IC400

Pin No.	Port	Signal Name	I/O	Initialize	Active Status	Remarks
1	PA3	STB3	O	L	H	Cross Point STB Terminal 3
2	PA2	STB2	O	L	H	Cross Point STB Terminal 2
3	PA1	STB1	O	L	H	Cross Point STB Terminal 1
4	PA0	STB0	O	L	H	Cross Point STB Terminal 0
10	PC7	-----	---	---	---	Not Used
11	PC6	-----	---	---	---	Not Used
12	PC5	-----	---	---	---	Not Used
13	PC4	E	O	L	H	Cross Point Address Terminal E
14	PC0	A	O	L	H	Cross Point Address Terminal A
15	PC1	B	O	L	H	Cross Point Address Terminal B
16	PC2	C	O	L	H	Cross Point Address Terminal C
17	PC3	D	O	L	H	Cross Point Address Terminal D
18	PB0	XD0	O	L	H	Cross Point Data Terminal 0
19	PB1	XD1	O	L	H	Cross Point Data Terminal 1
20	PB2	XD2	O	L	H	Cross Point Data Terminal 2
21	PB3	XD3	O	L	H	Cross Point Data Terminal 3
22	PB4	XD4	O	L	H	Cross Point Data Terminal 4
23	PB5	XD5	O	L	H	Cross Point Data Terminal 5
24	PB6	XD6	O	L	H	Cross Point Data Terminal 6
25	PB7	XD7	O	L	H	Cross Point Data Terminal 7
37	PA7	STB7	O	L	H	Cross Point STB Terminal 7
38	PA6	STB6	O	L	H	Cross Point STB Terminal 6
39	PA5	STB5	O	L	H	Cross Point STB Terminal 5
40	PA4	STB4	O	L	H	Cross Point STB Terminal 4

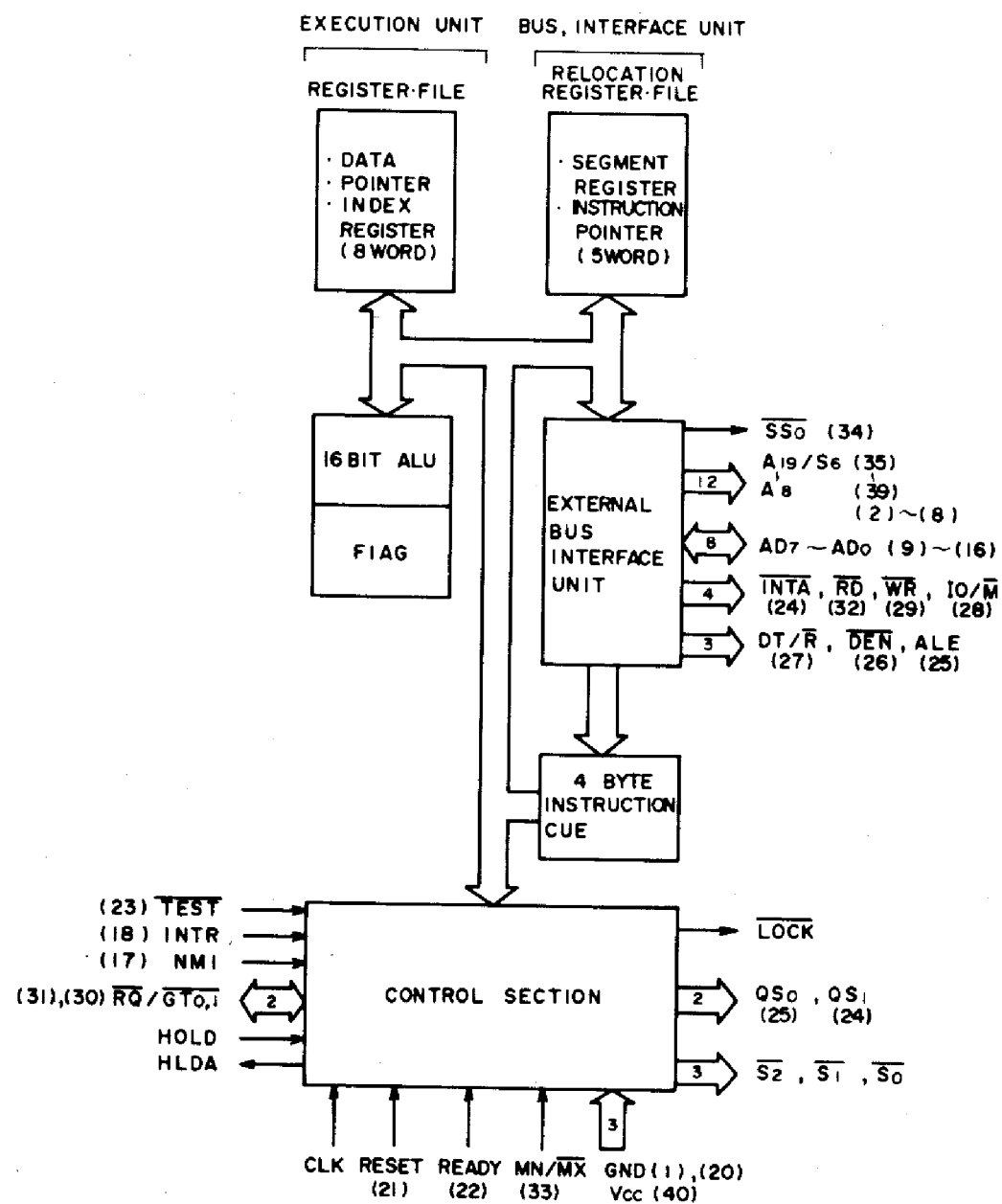


BLOCK DIAGRAM

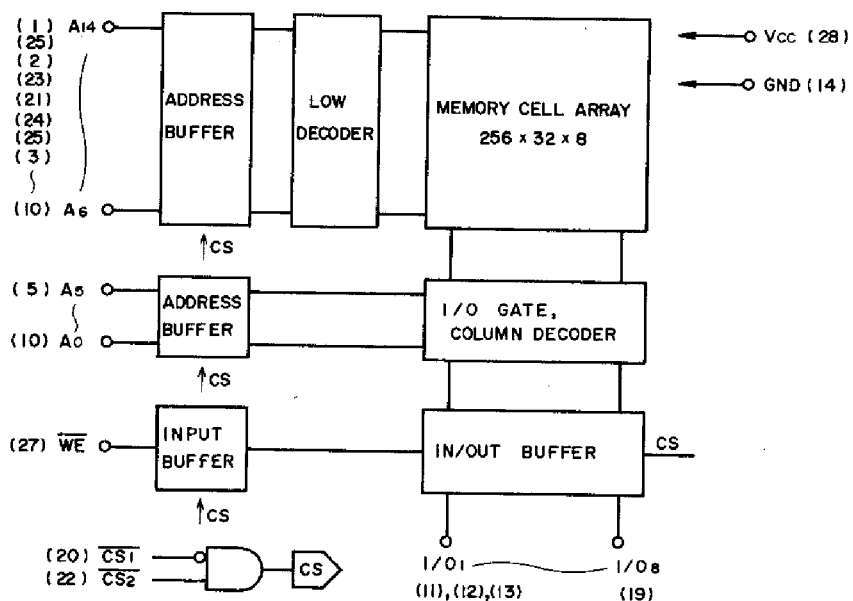


IC BLOCK DIAGRAM

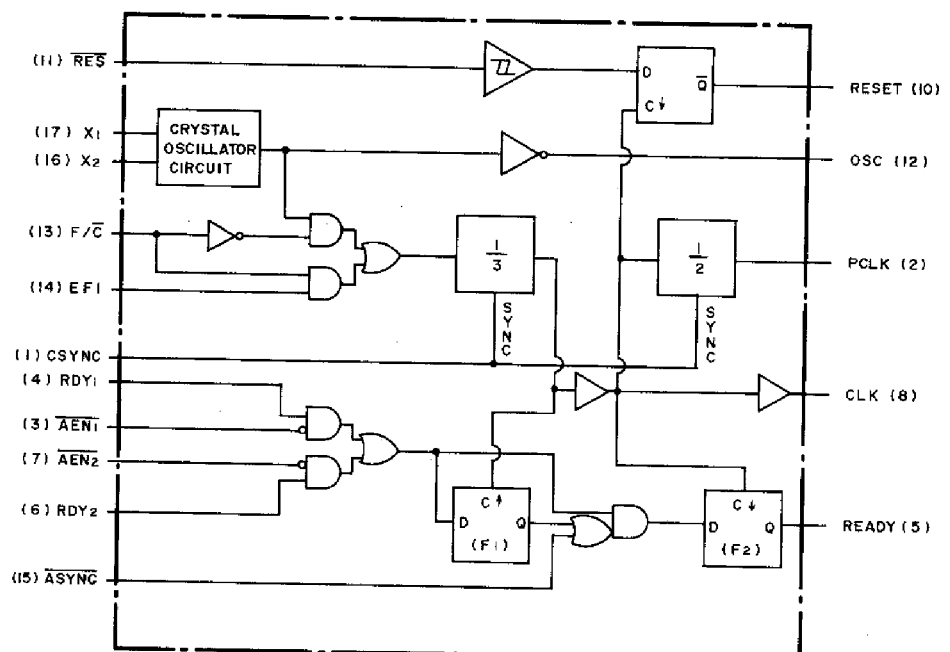
IC100 PQVIMSM80C88



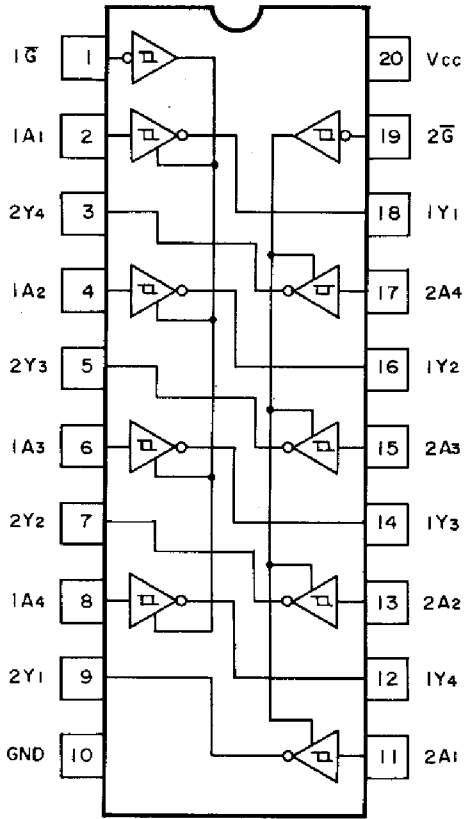
IC102 PQVIPD83257C



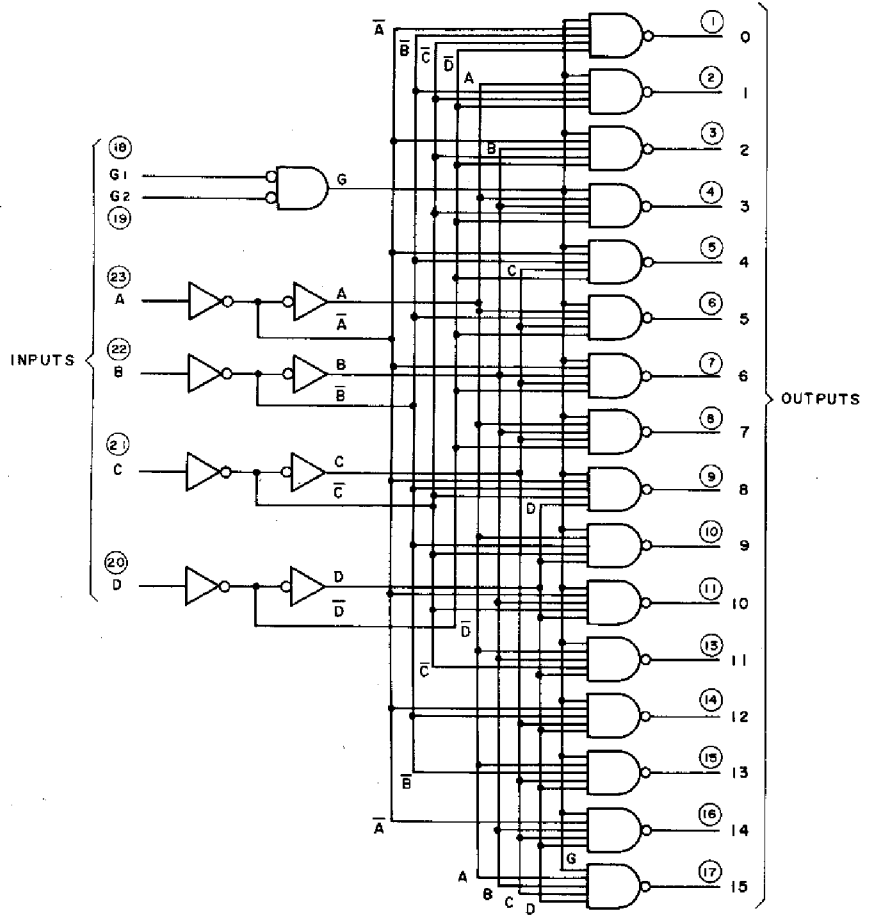
IC105 PQVIMS8C84A2



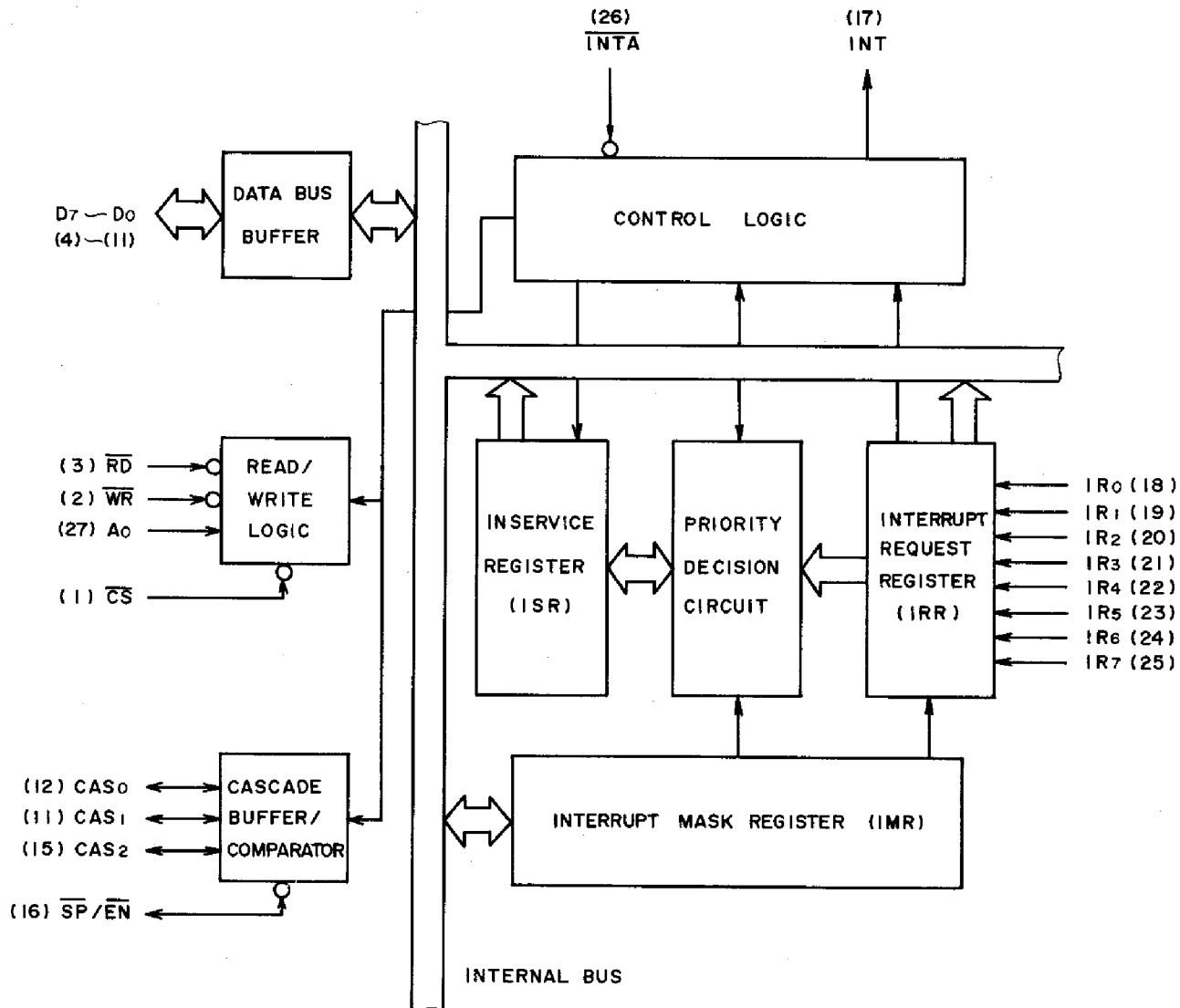
IC110 PQVIHD7L240P

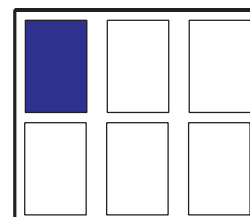
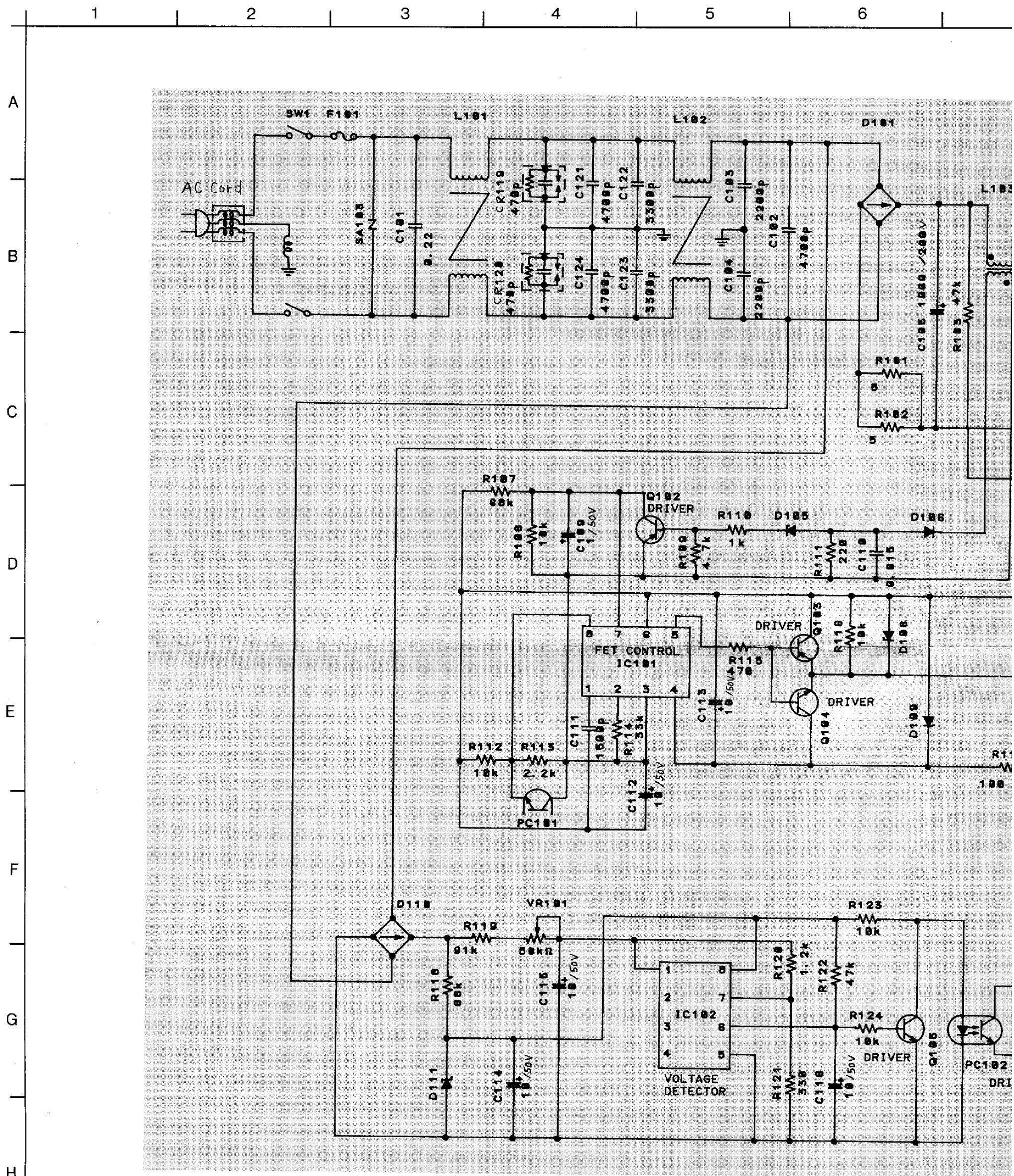


IC115 PQVIHD7L154P



IC117 PQVIMS8C59A2

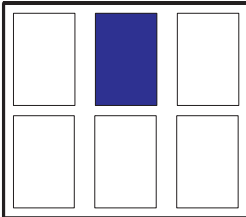
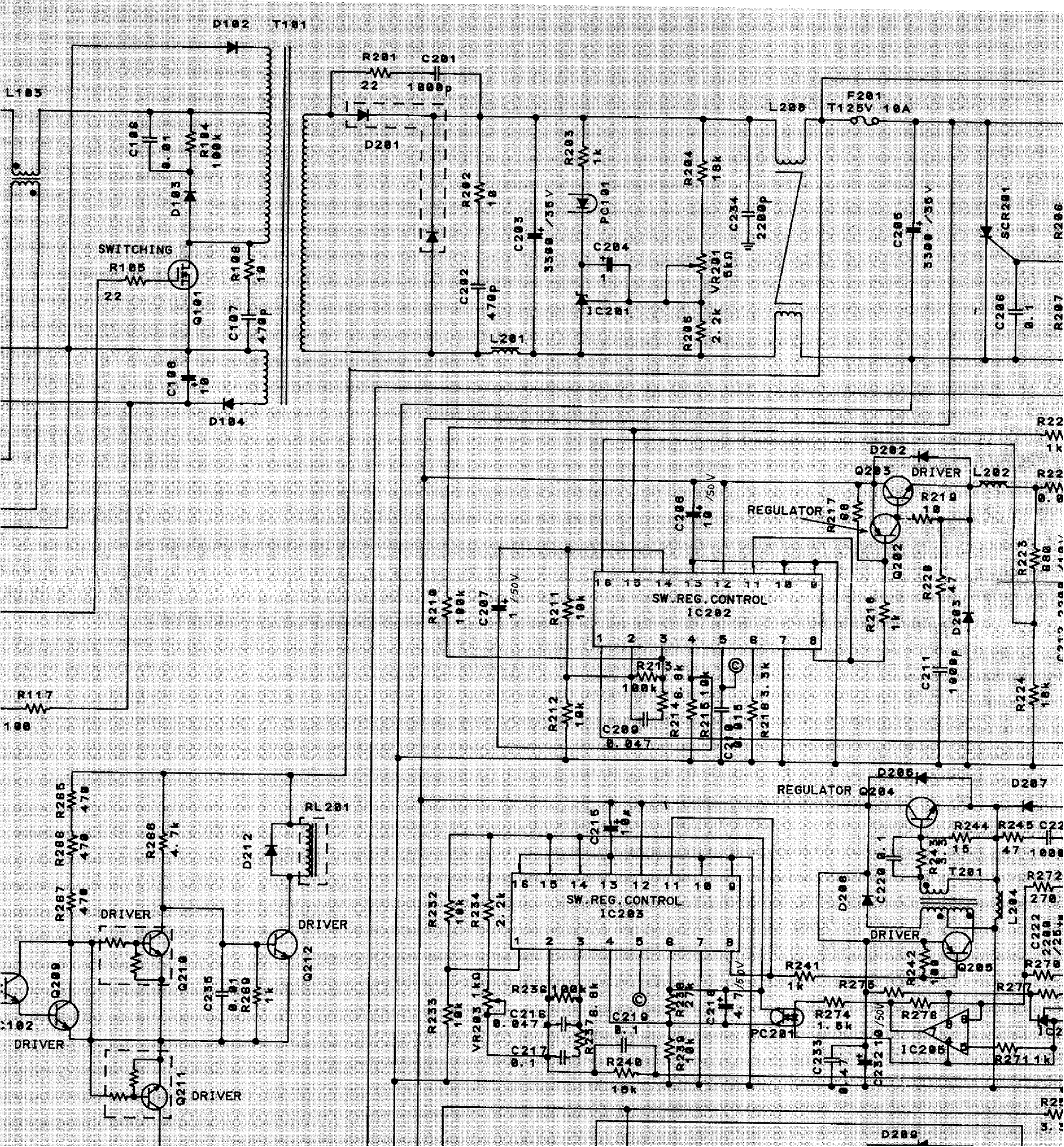


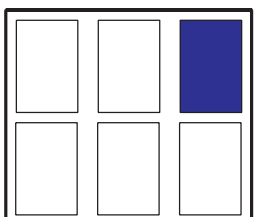
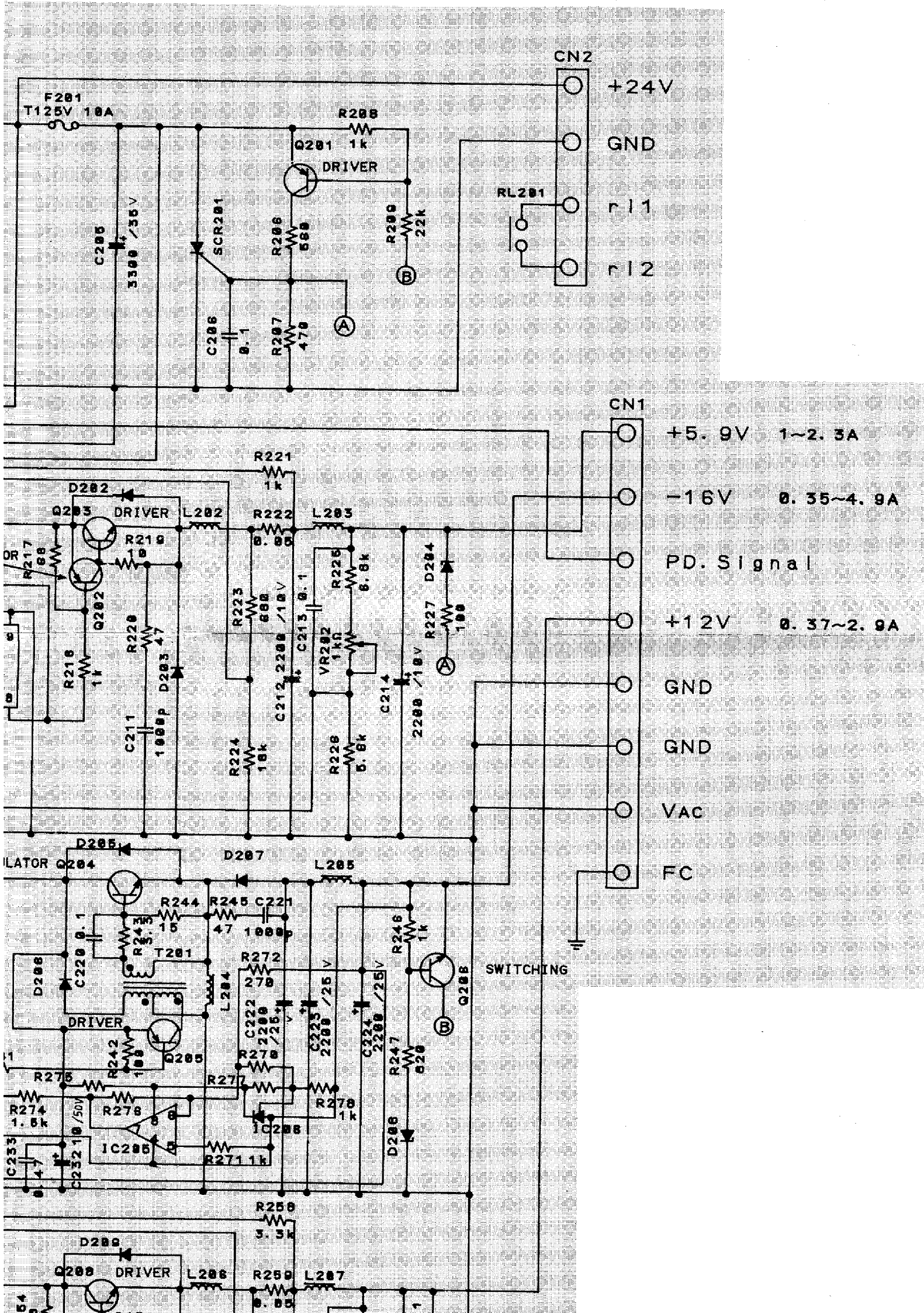


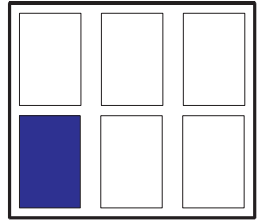
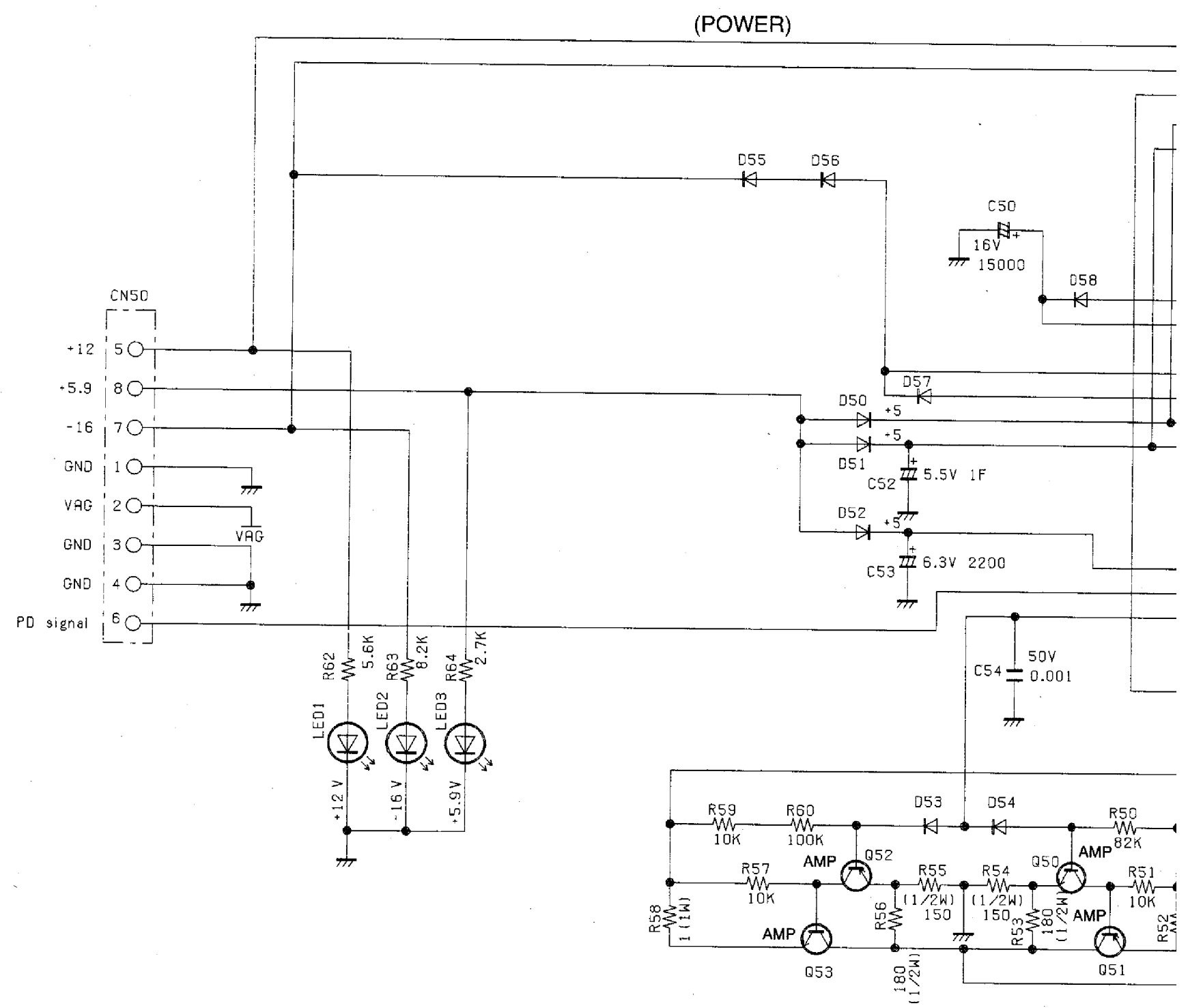
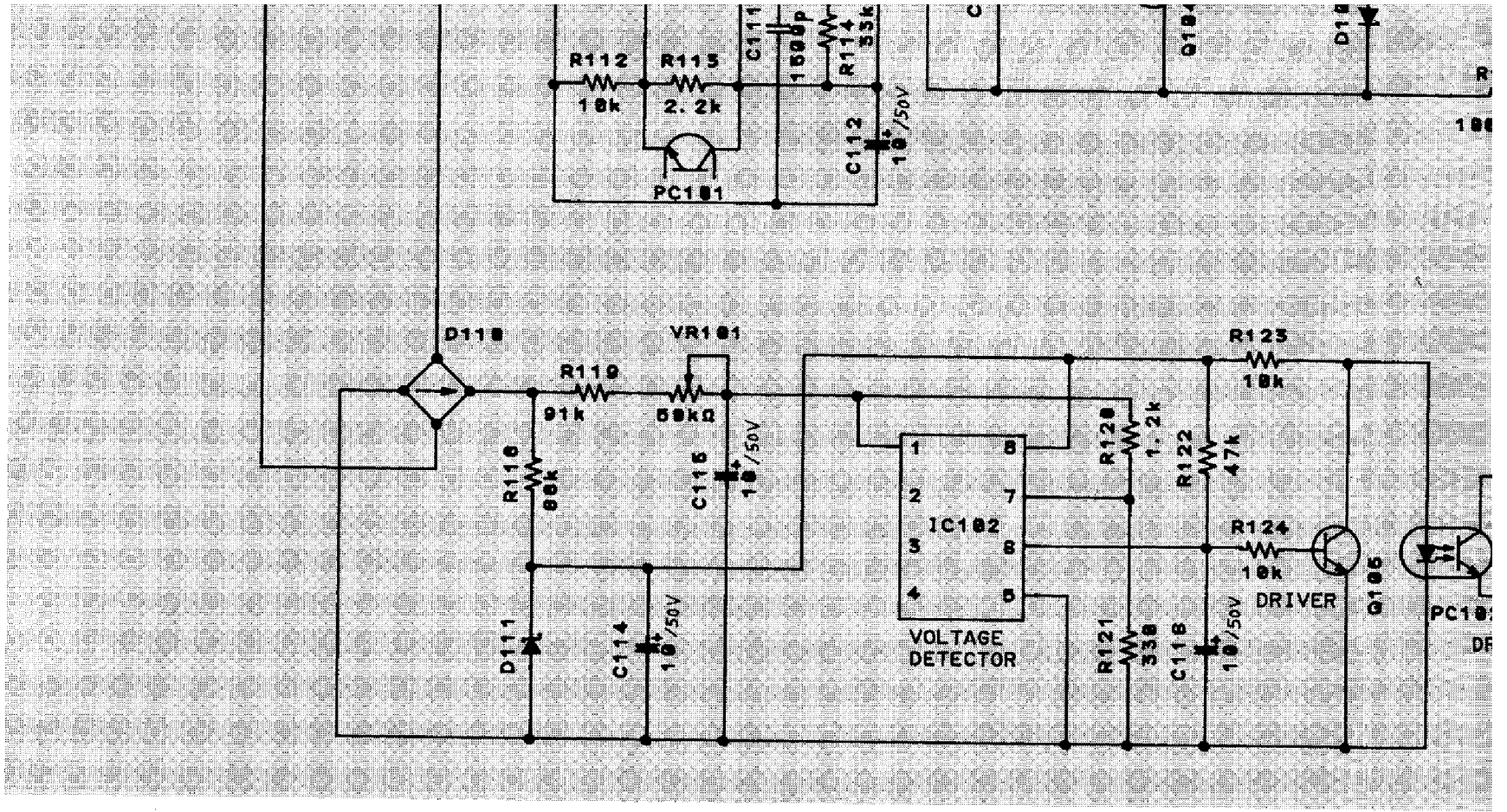
SCHEMATIC DIAGRAM

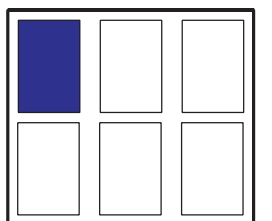
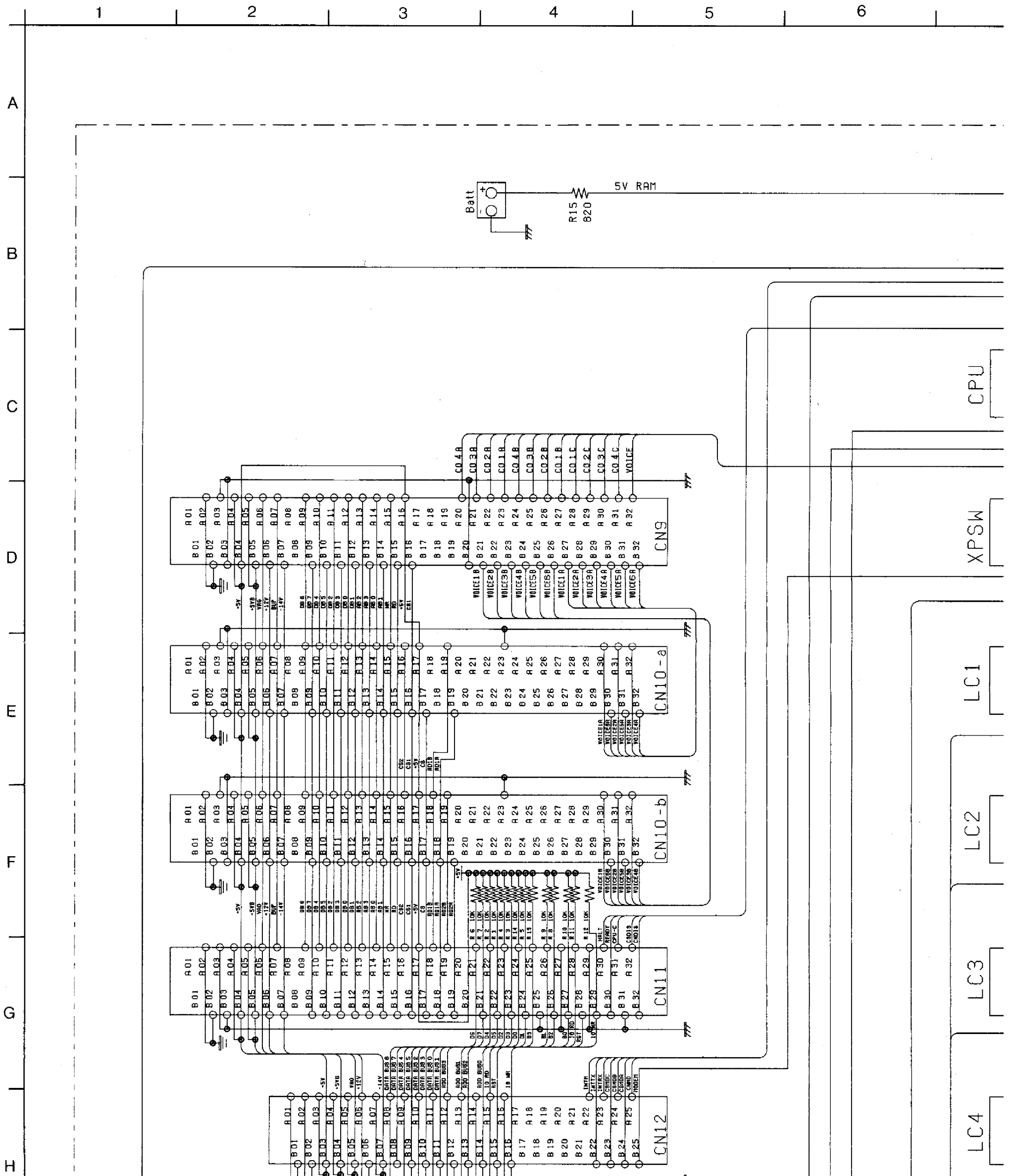
7 8 9 10 11 12 13

(POWER UNIT)









SCHEMATIC DIAGRAM (MAIN)

7

8

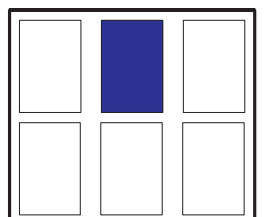
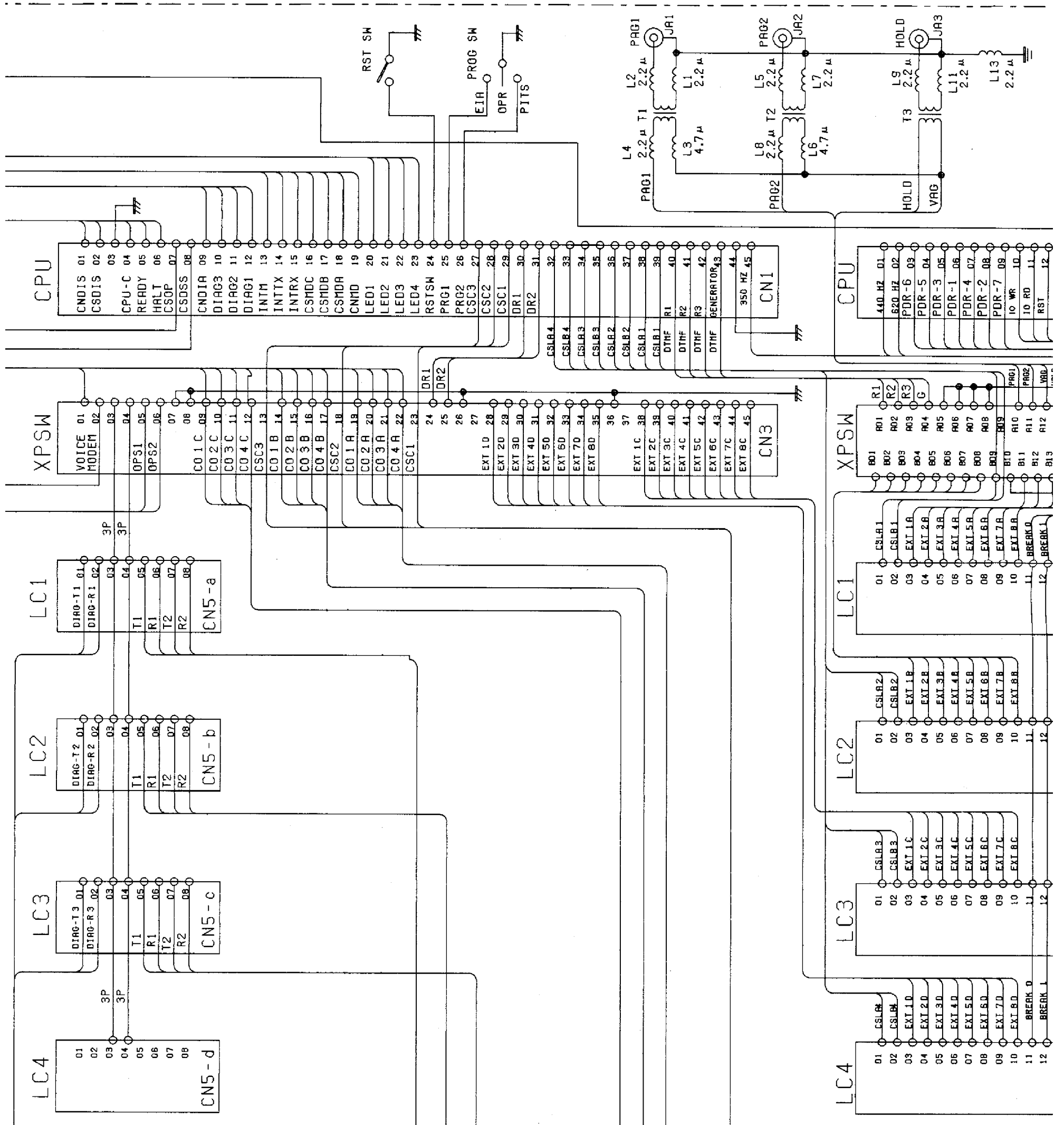
9

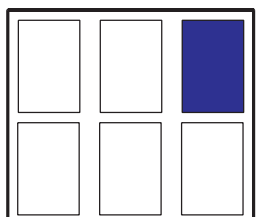
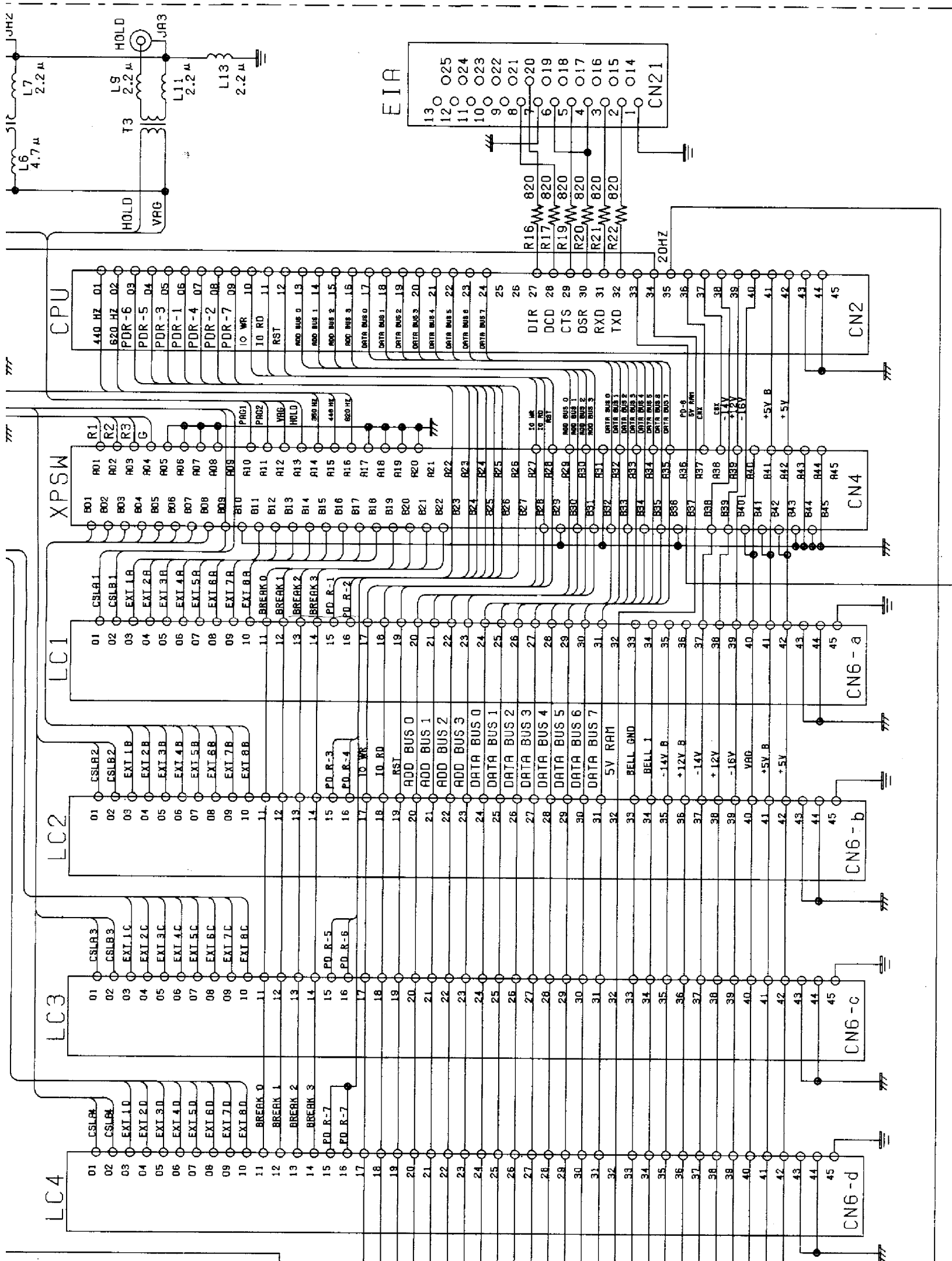
10

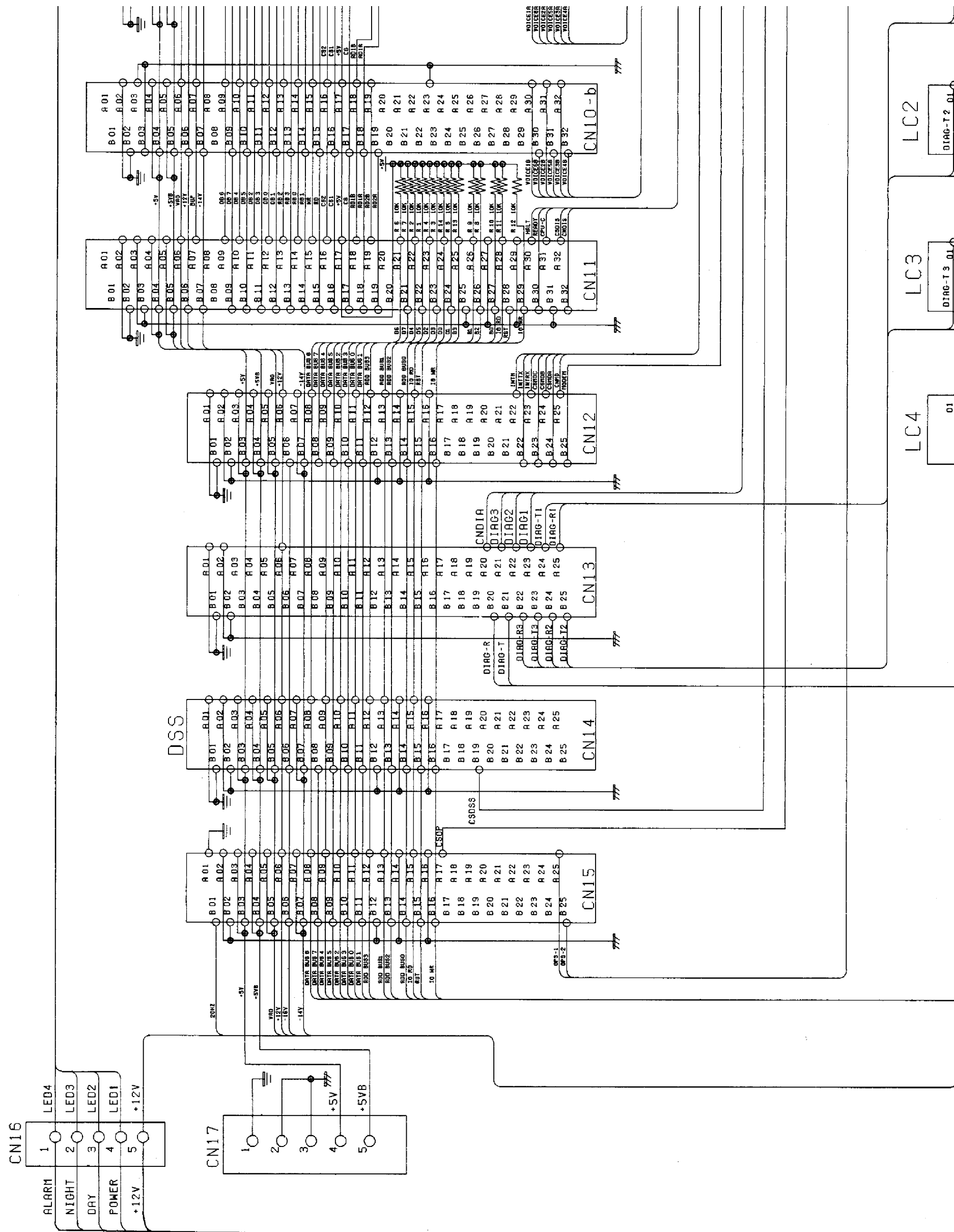
11

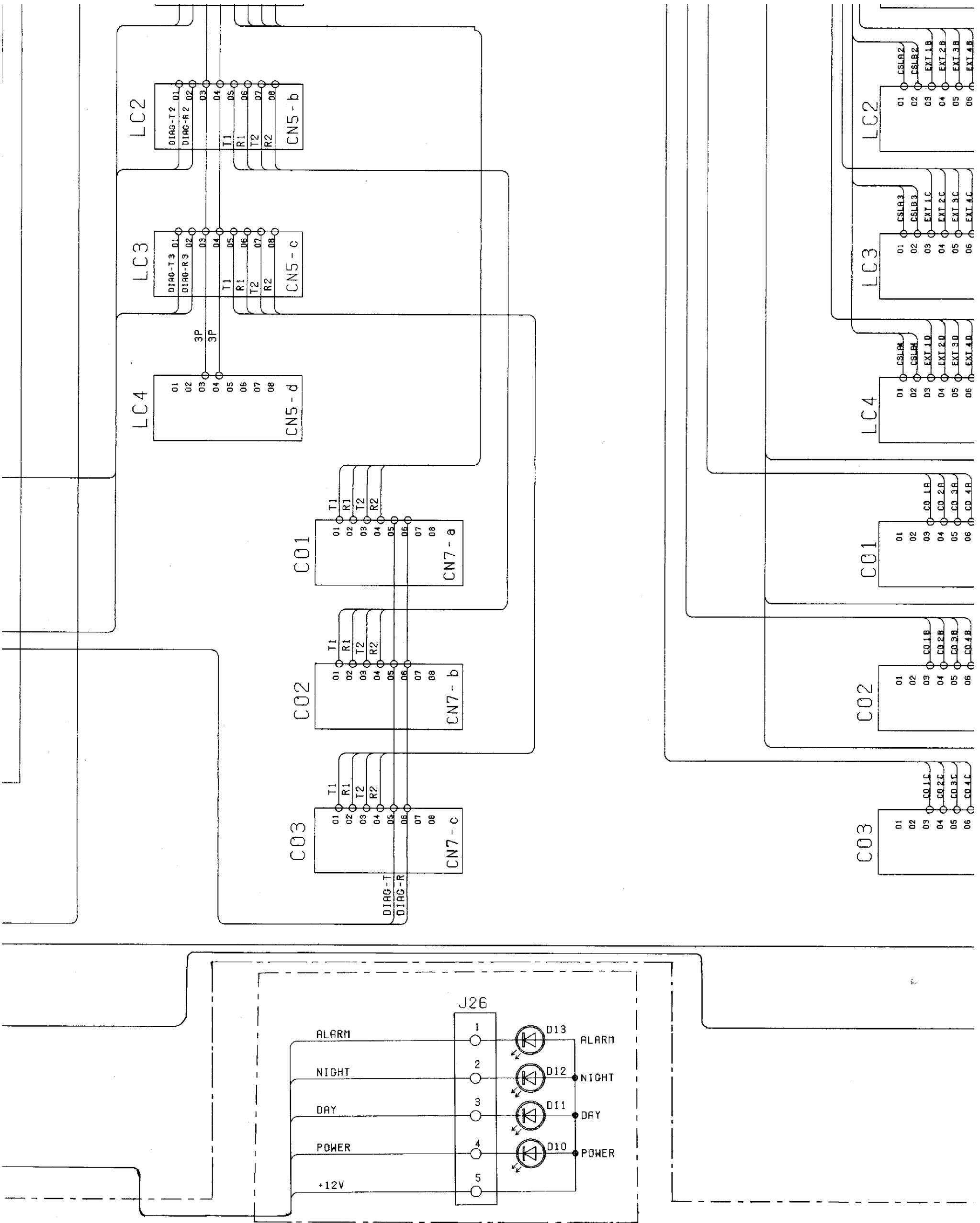
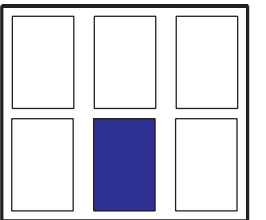
12

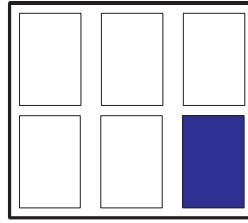
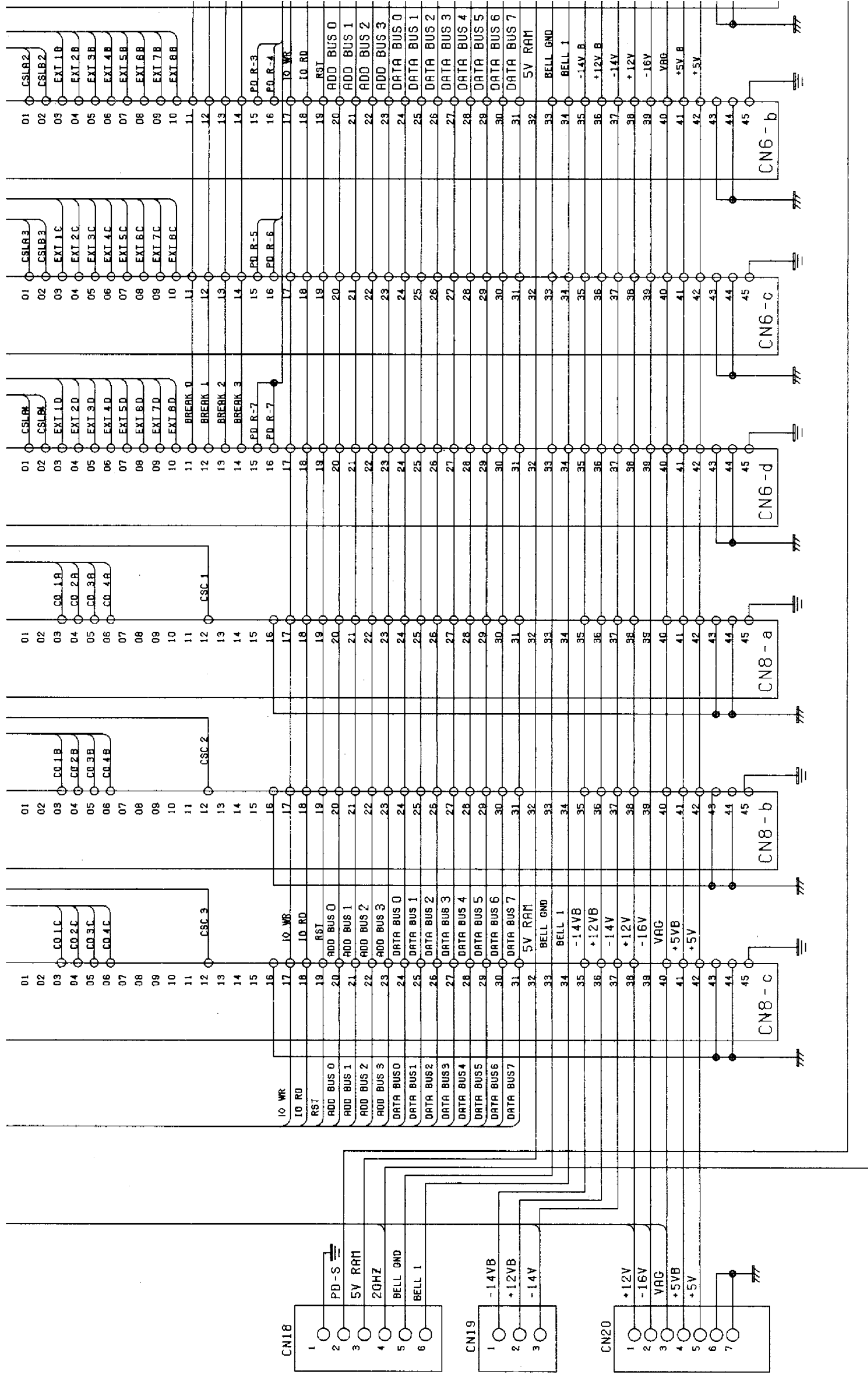
13











1 2 3 4 5 6 7

A

B

C

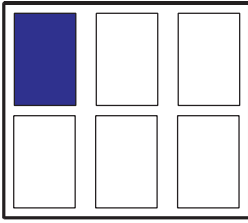
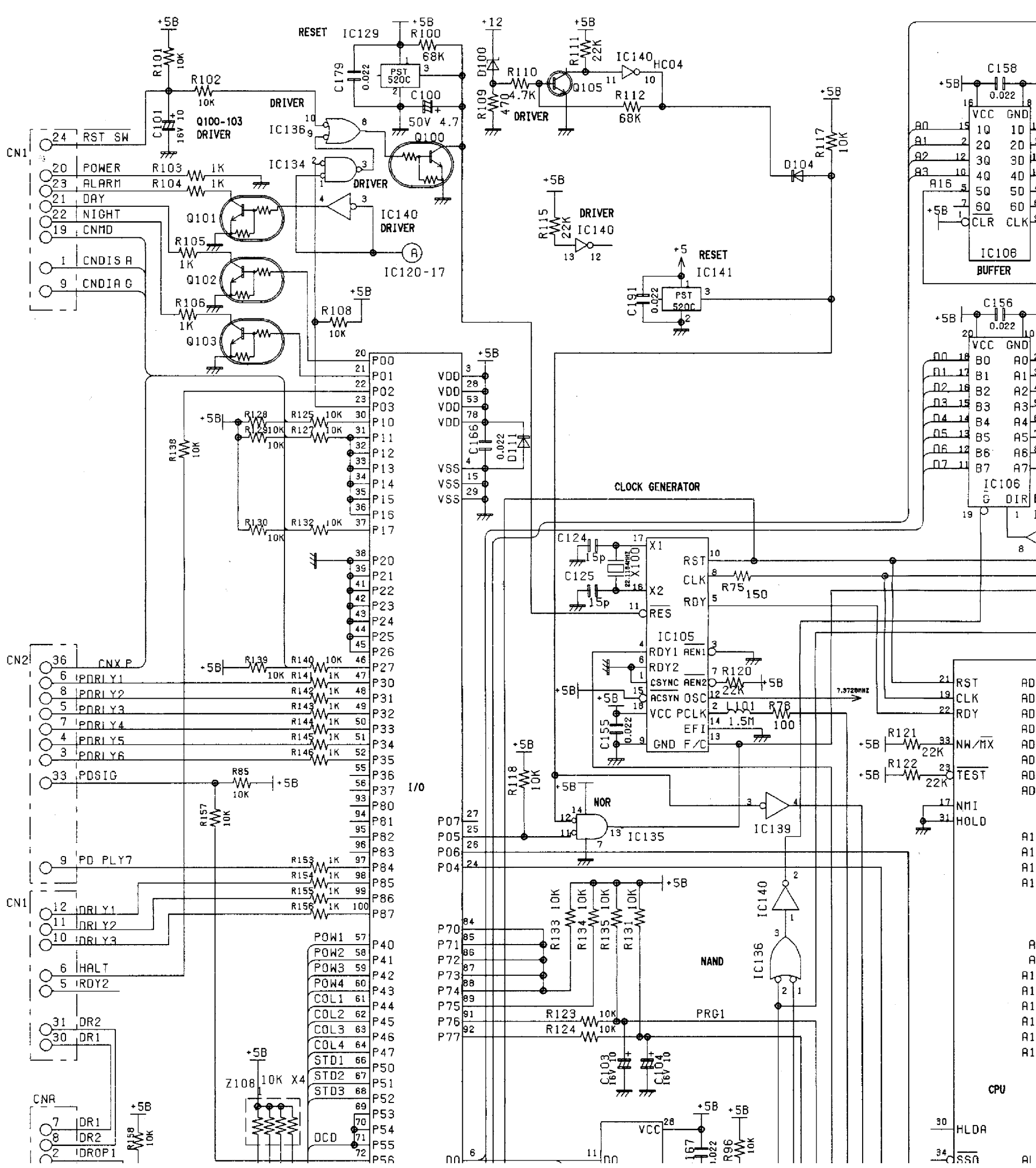
D

E

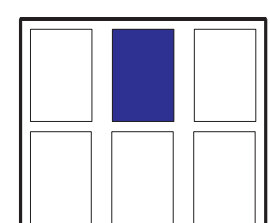
F

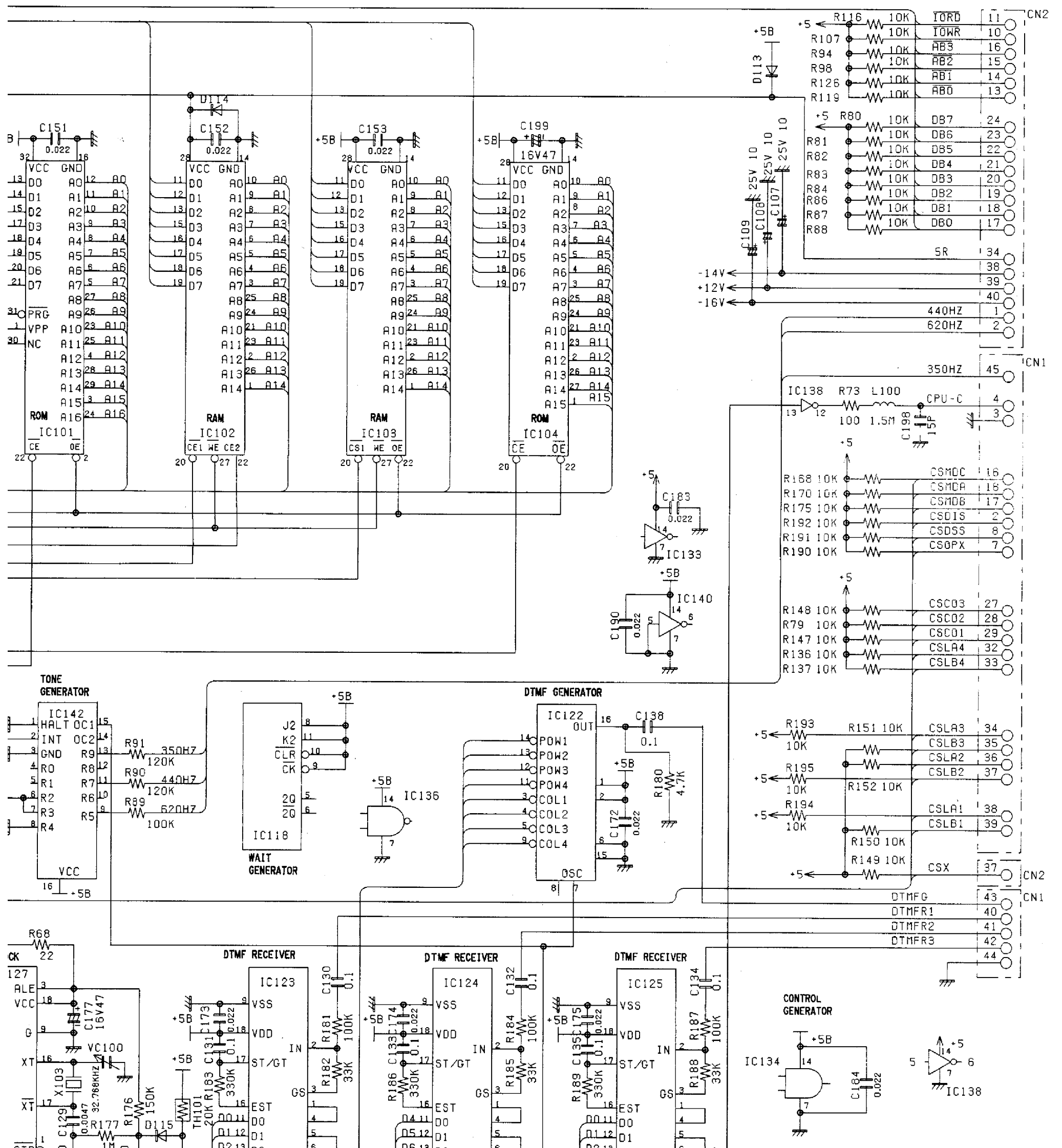
G

H



A horizontal number line with tick marks labeled 7, 8, 9, 10, 11, and 12.





E

F

G

H

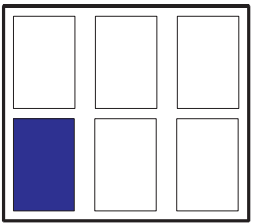
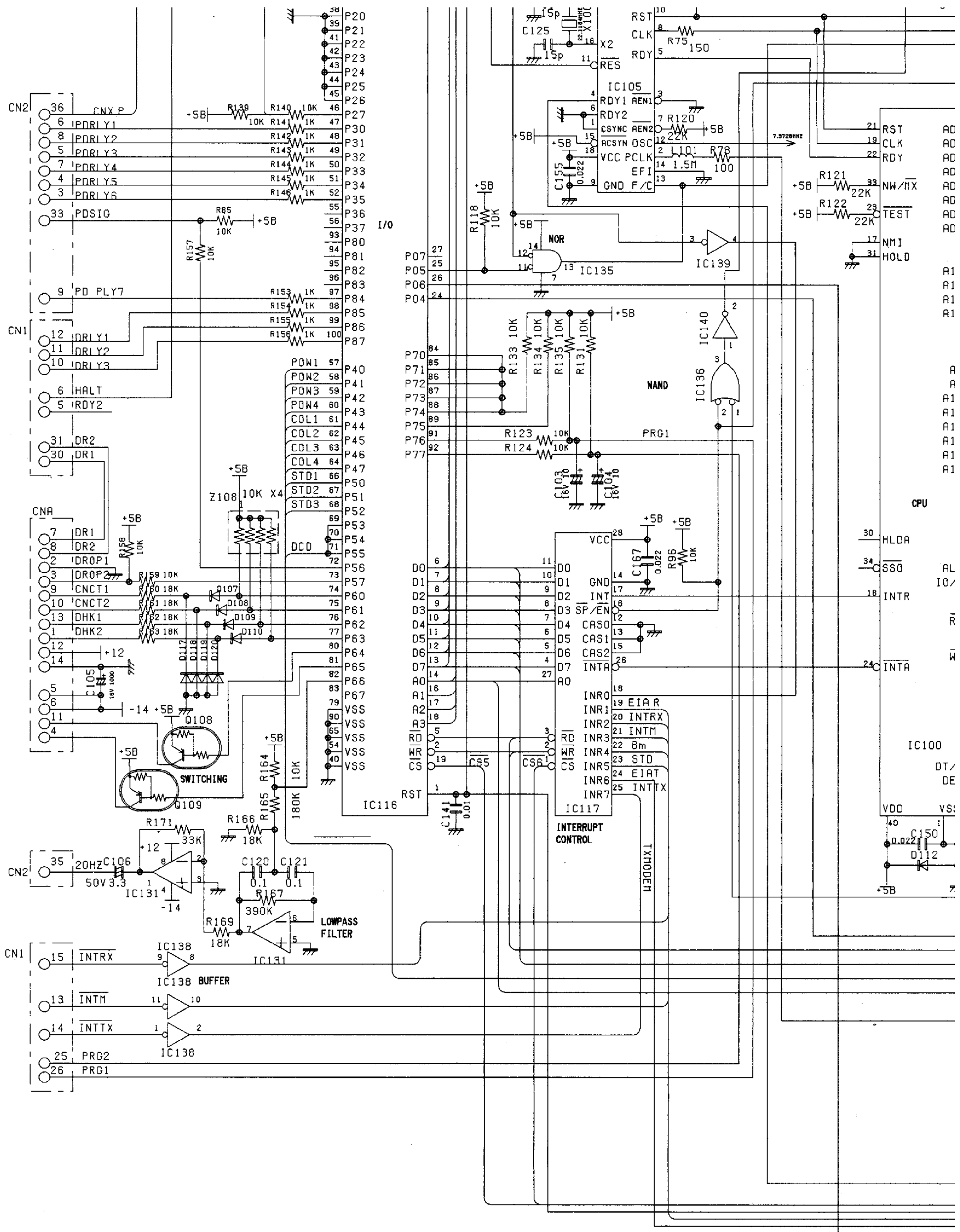
I

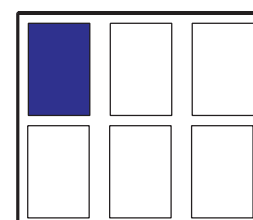
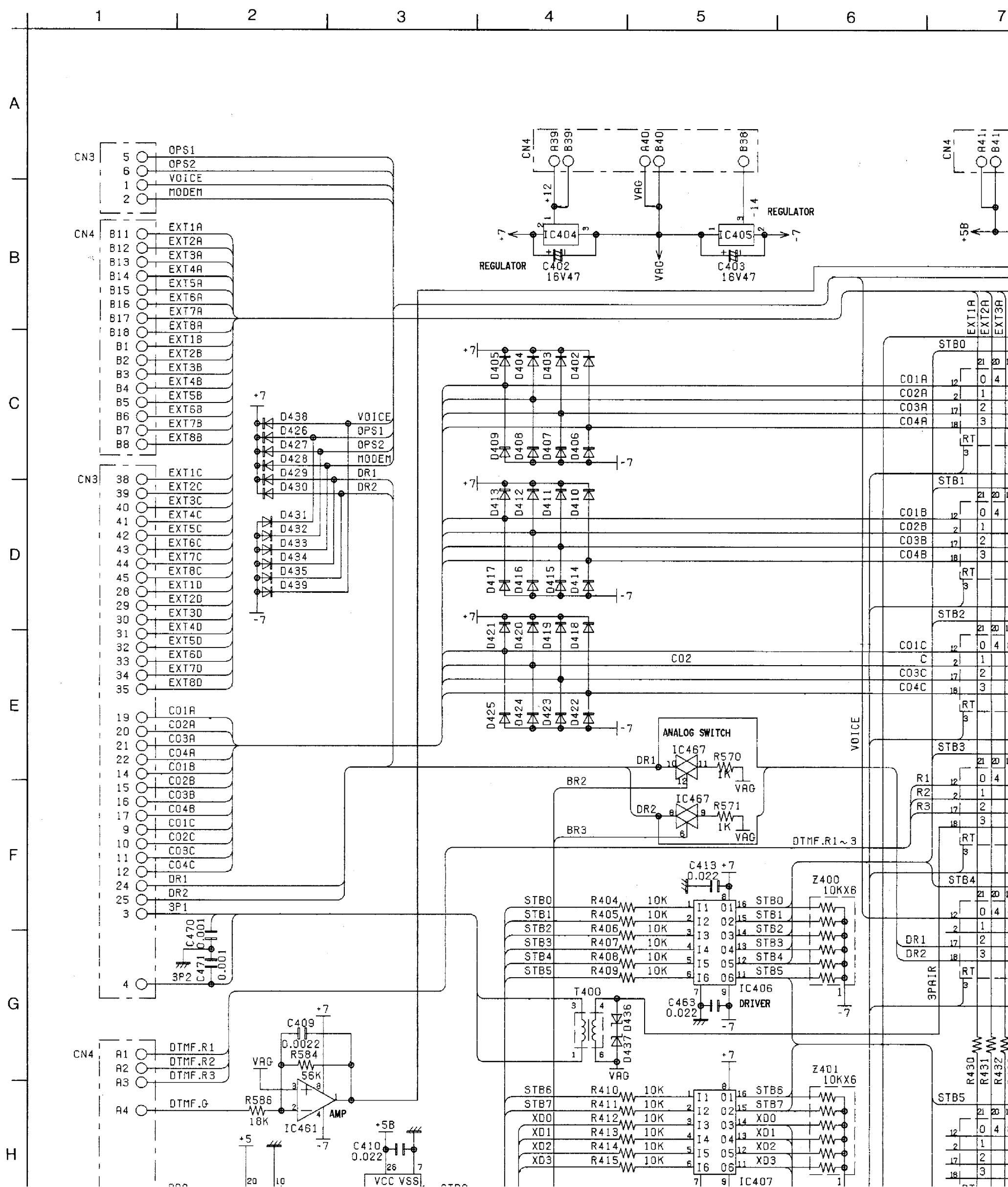
J

K

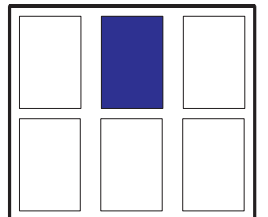
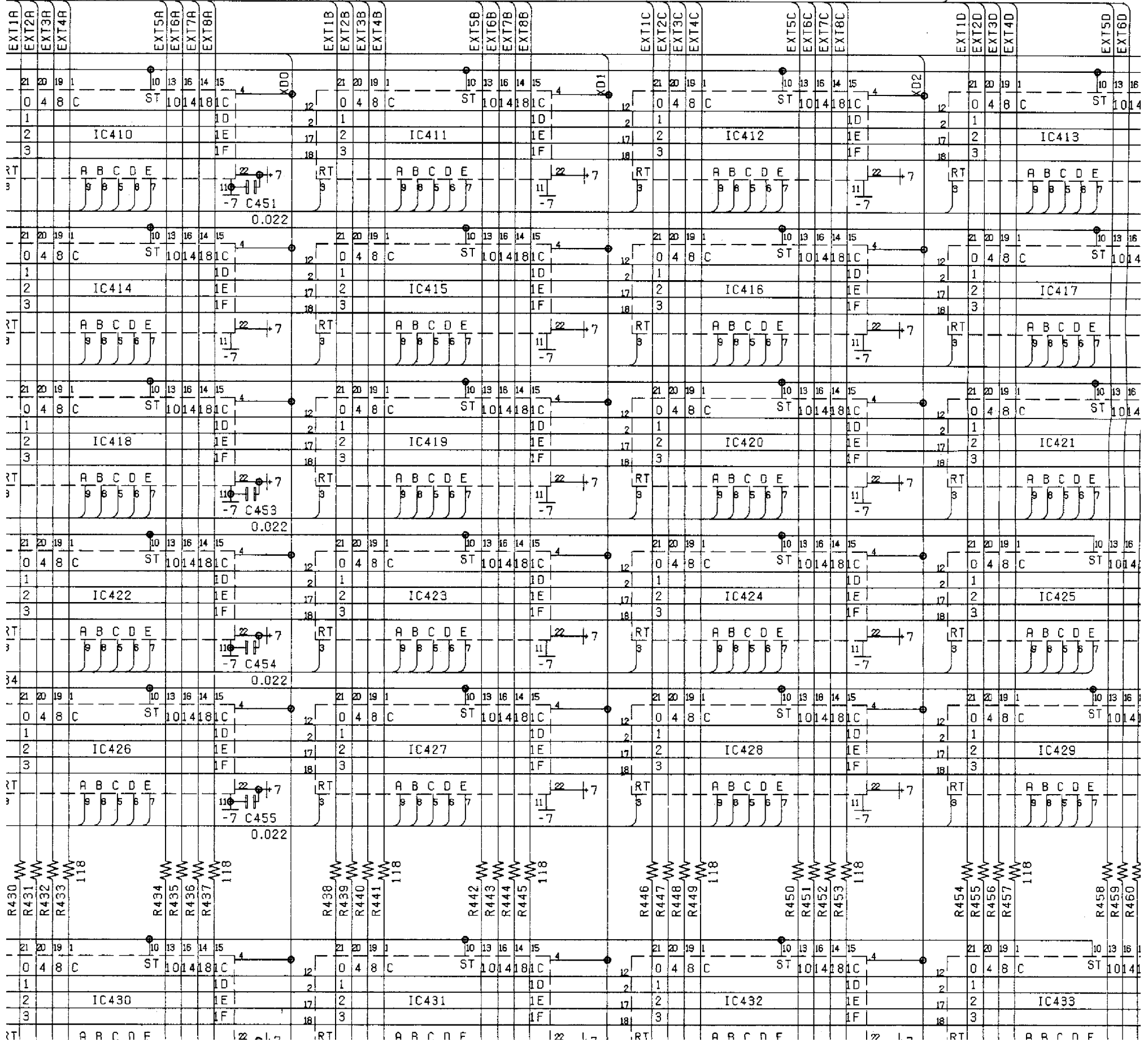
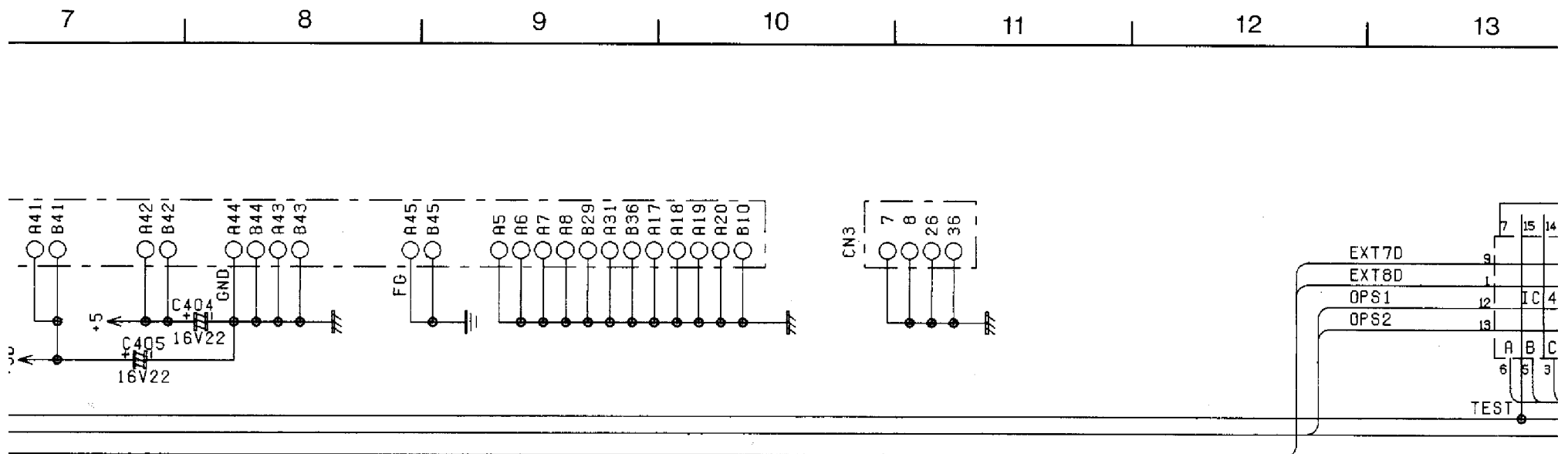
L

M



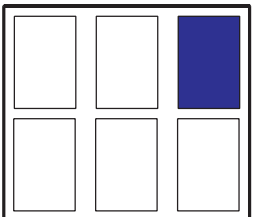
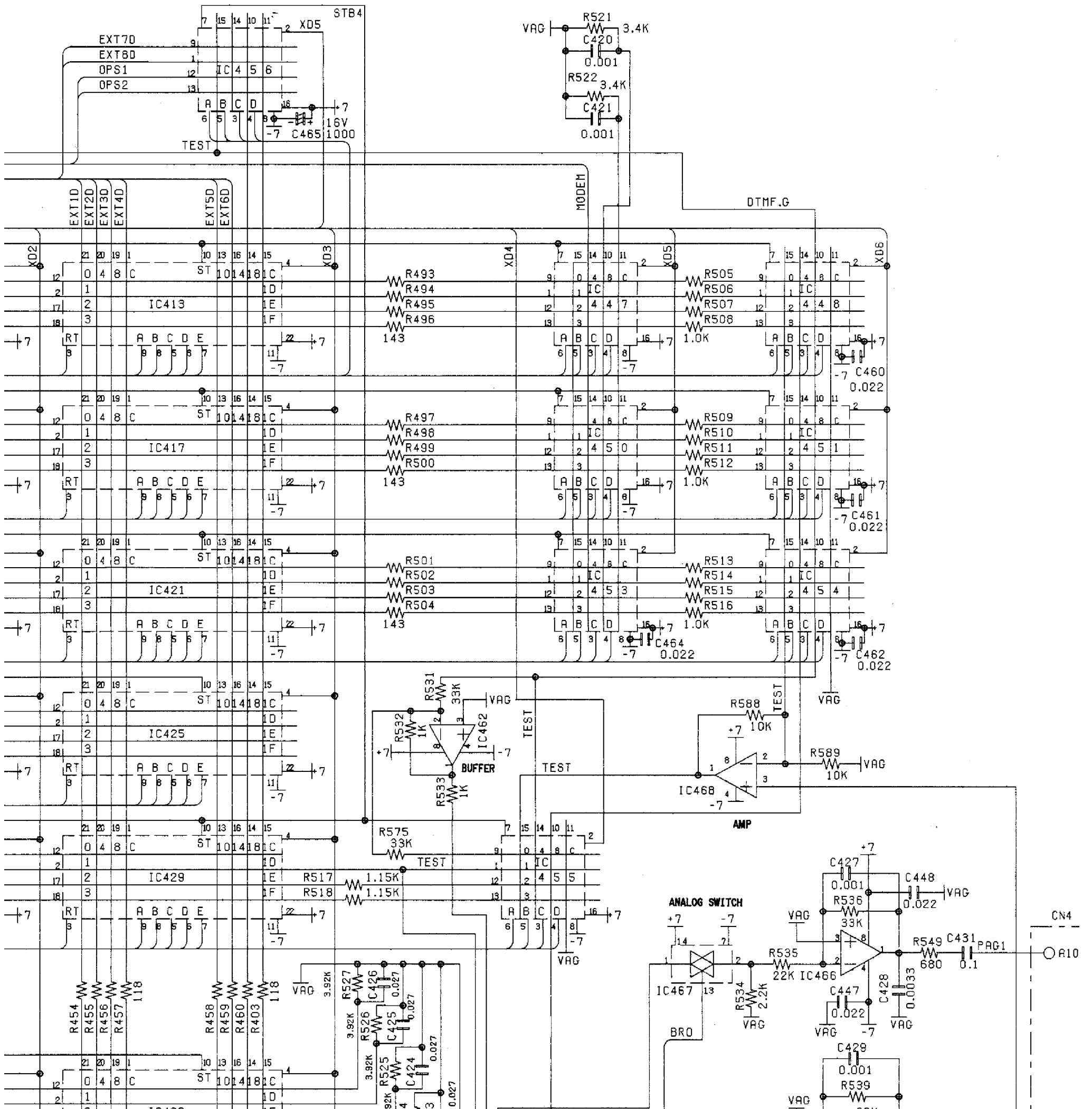


SCHEMATIC DIAGRAM (CROSS POINT SWITCH)



4)

12 13 14 15 16 17 18



E

F

G

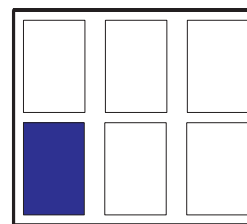
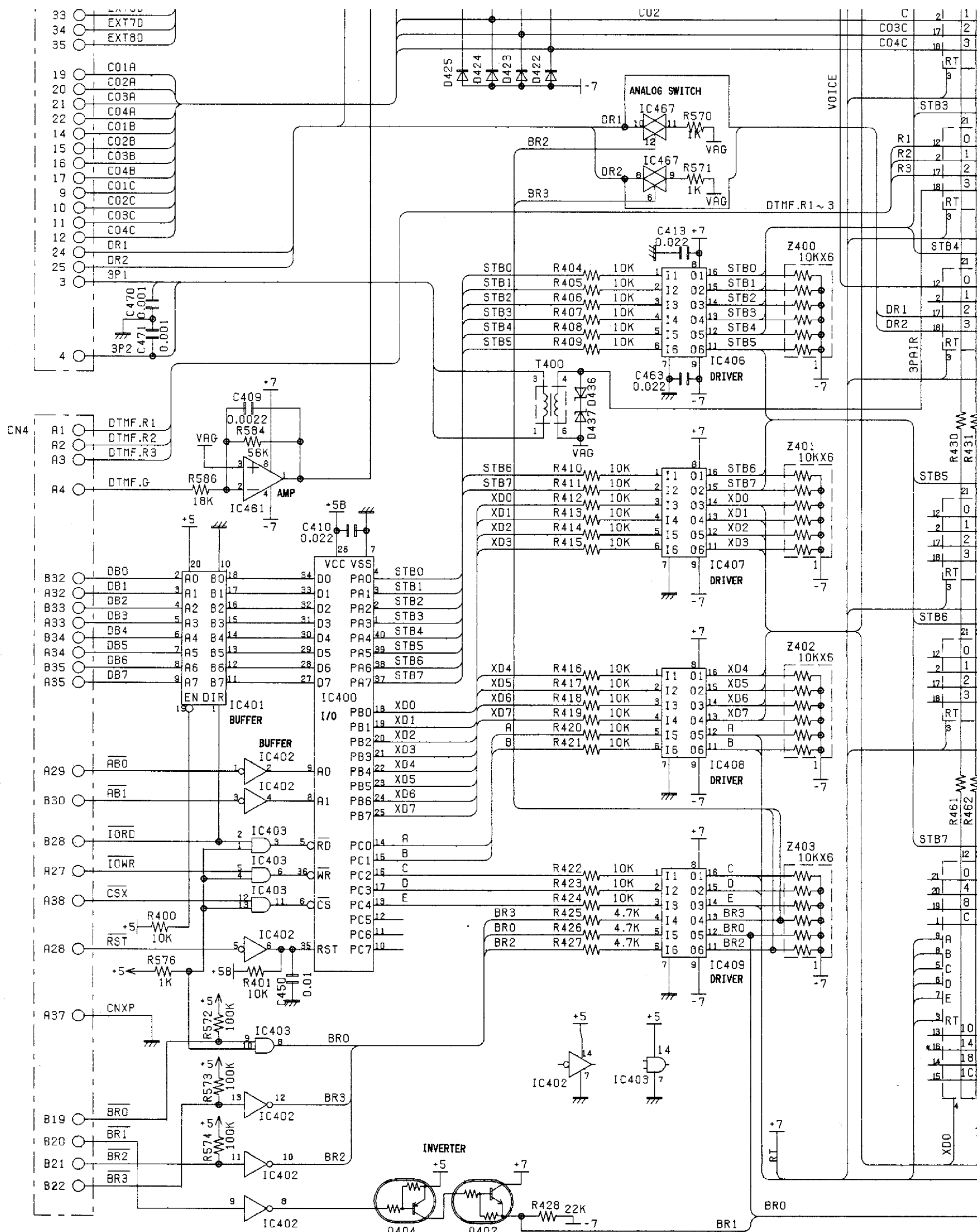
H

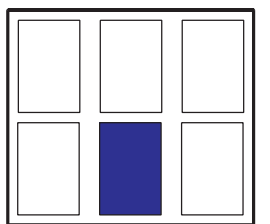
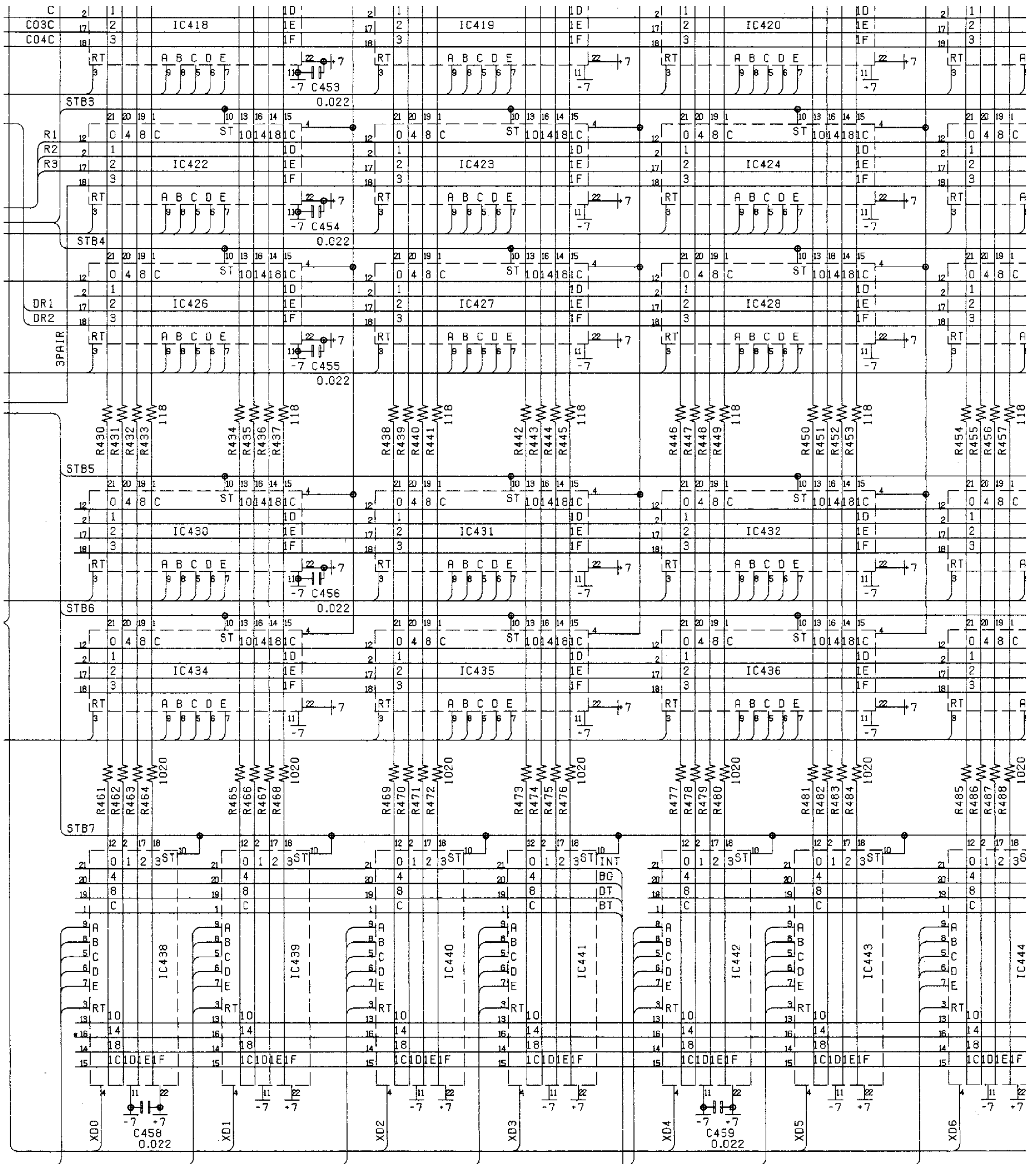
I

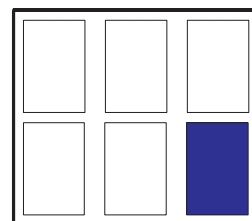
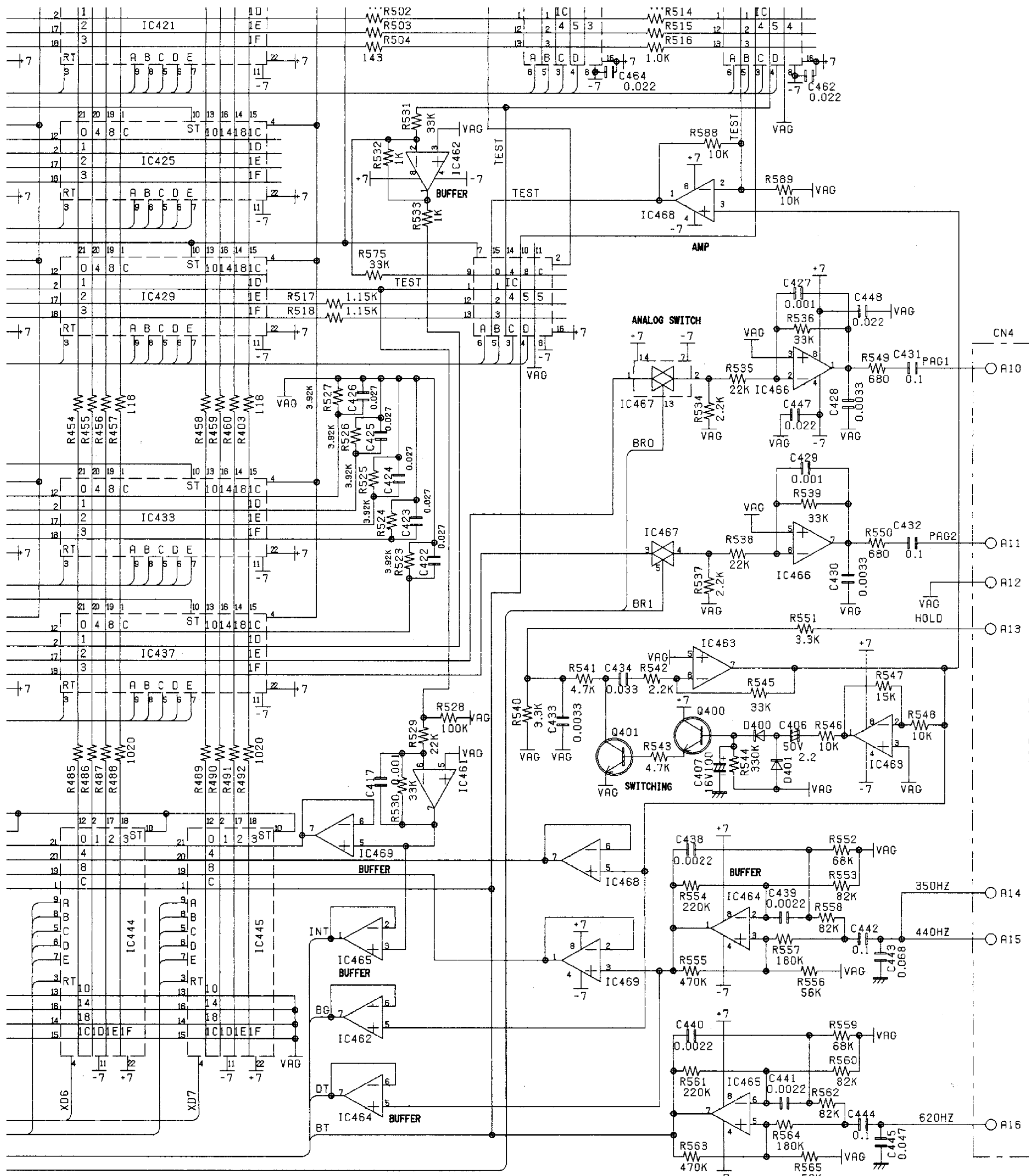
J

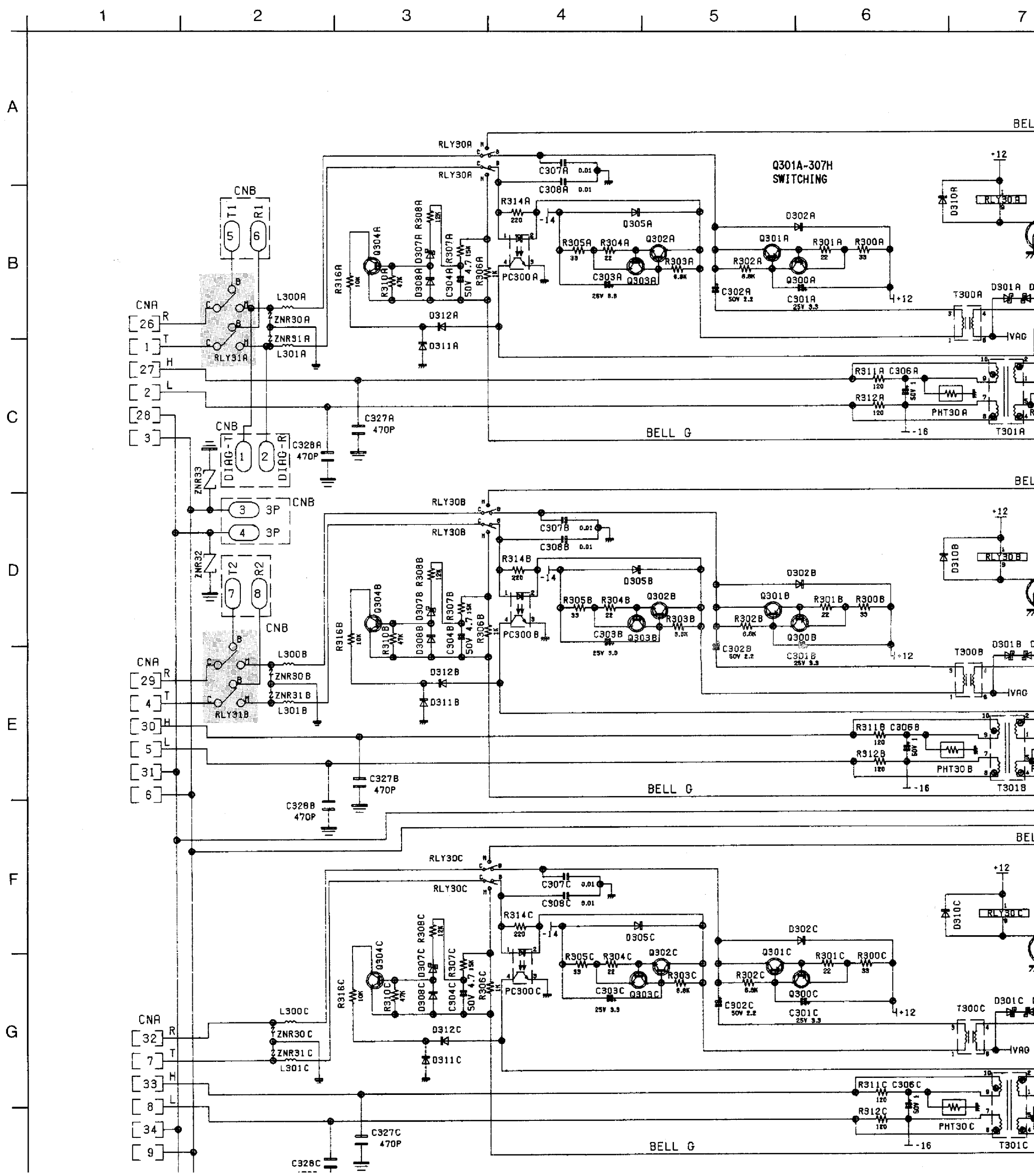
K

L









SCHEMATIC DIAGRAM (LC1, 2)

7

8

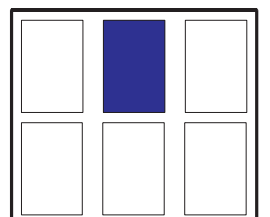
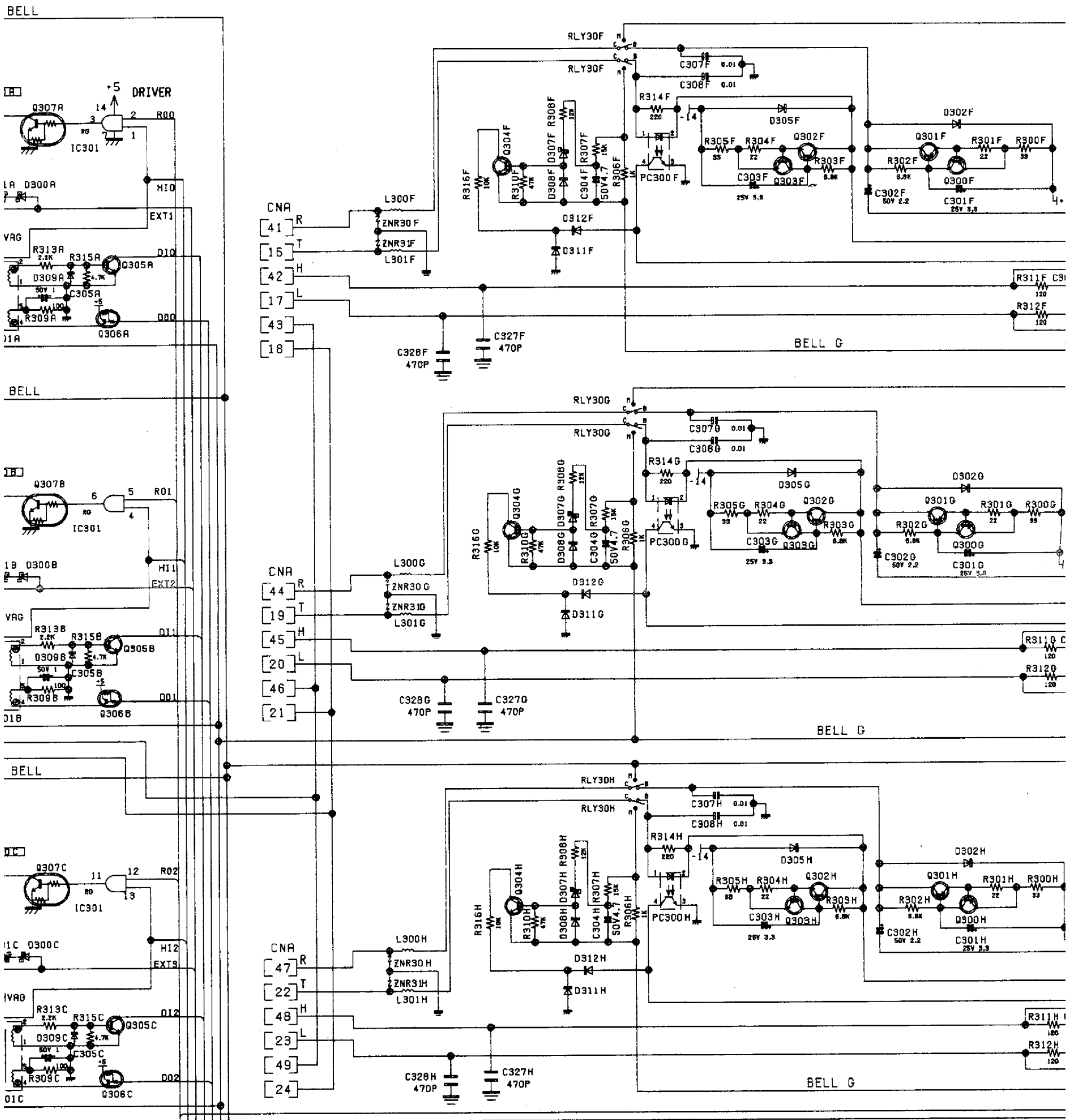
9

10

11

12

13



12

13

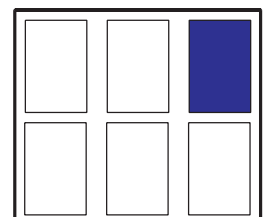
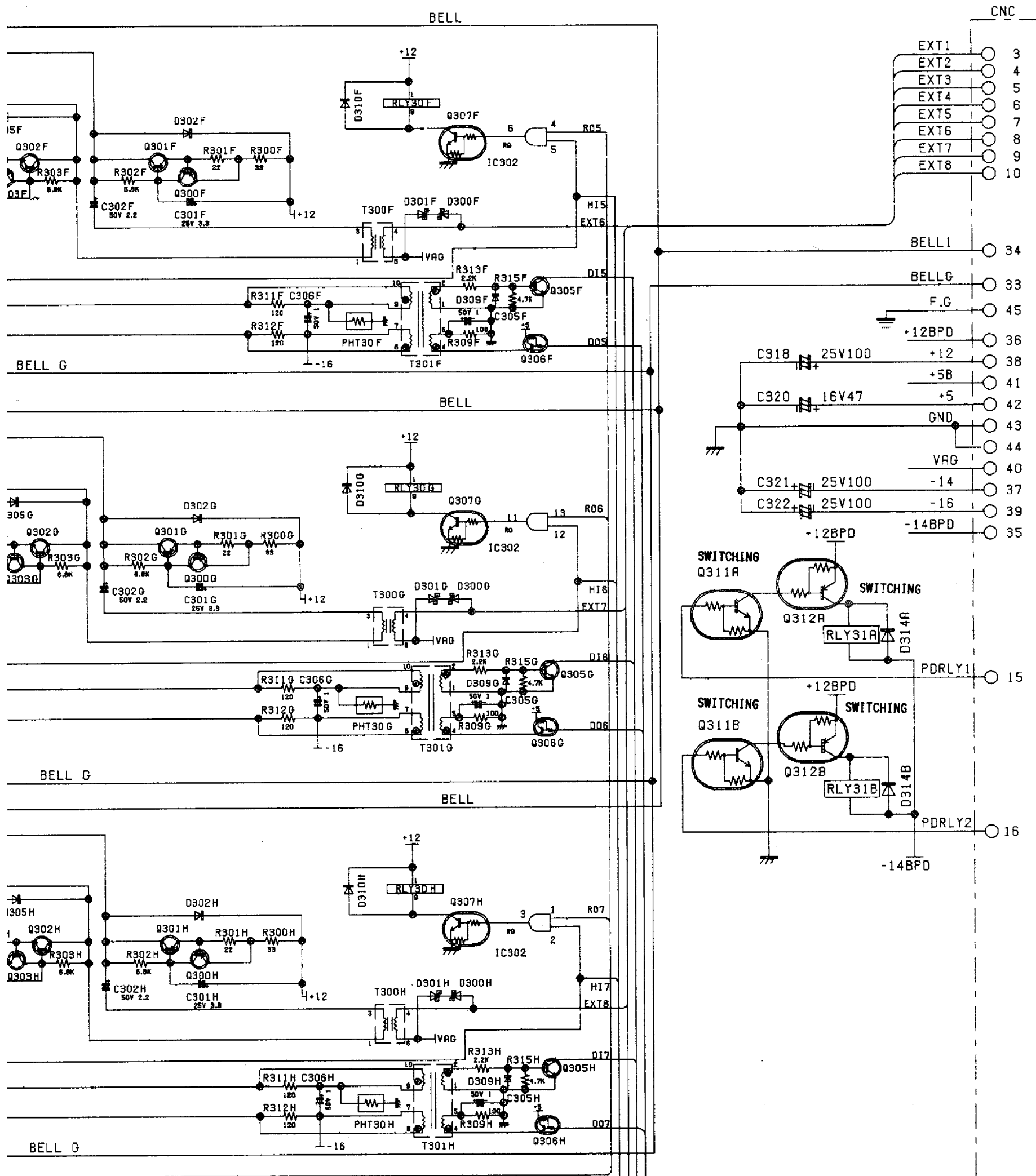
14

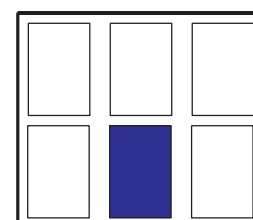
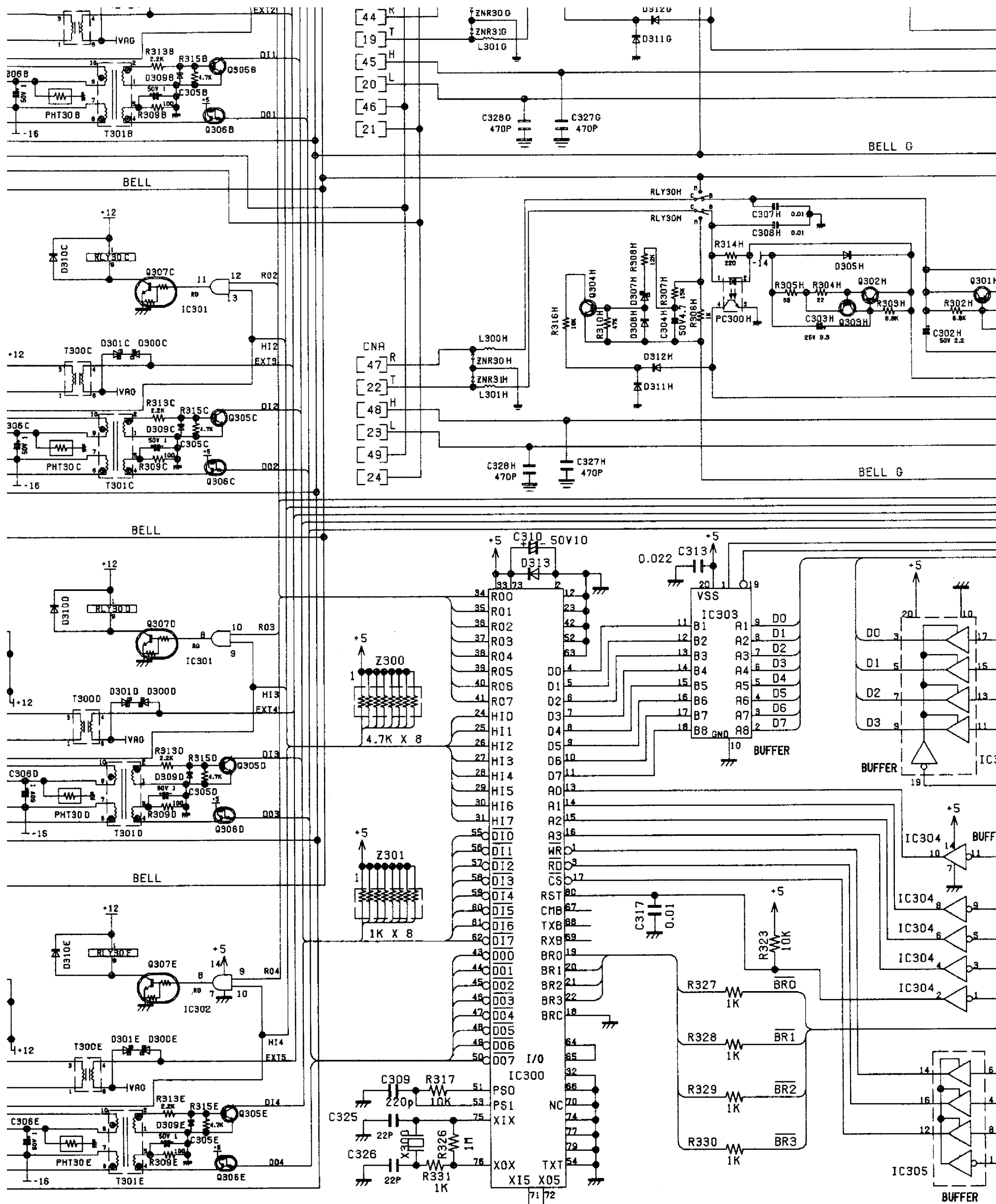
15

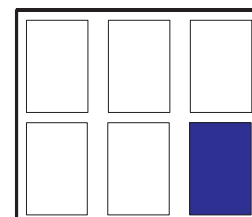
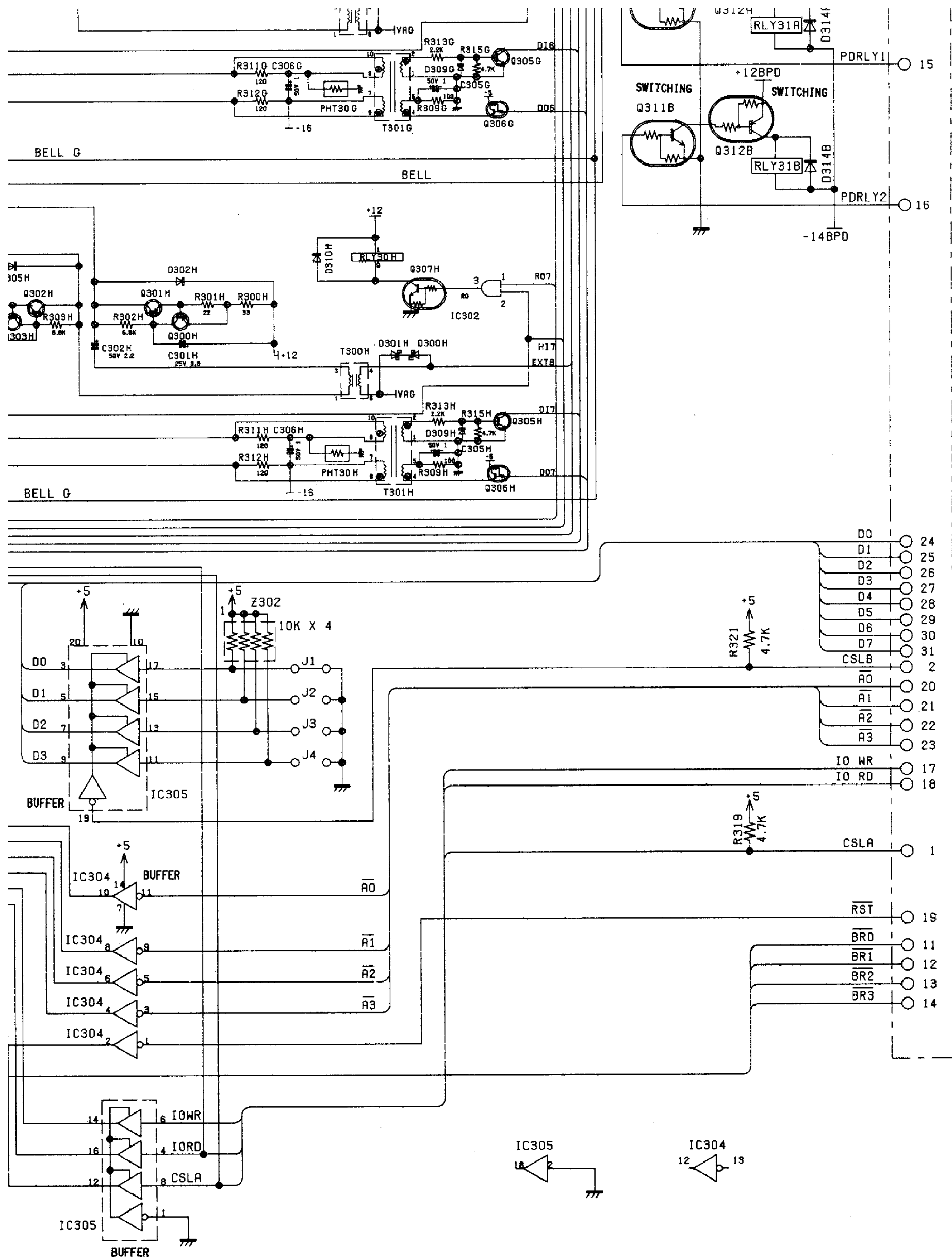
16

17

18







A

B

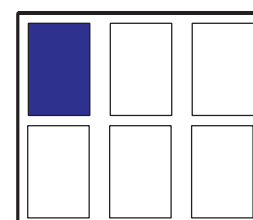
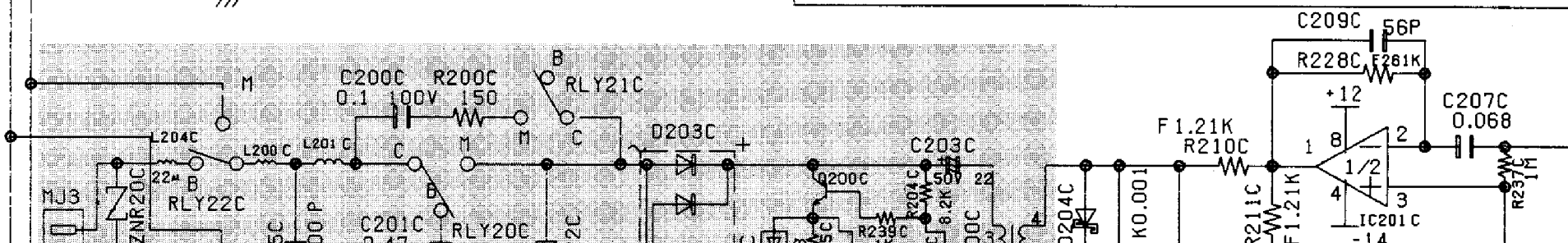
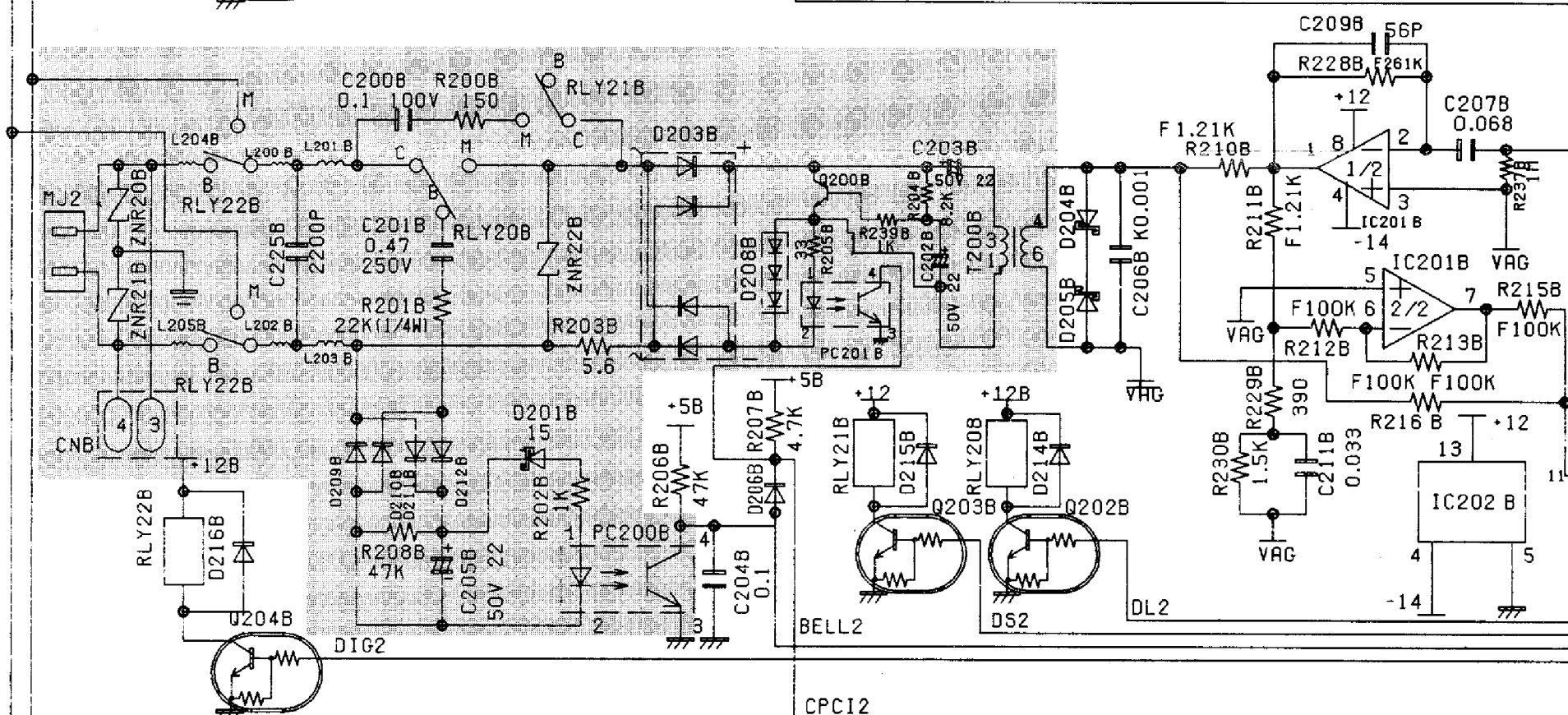
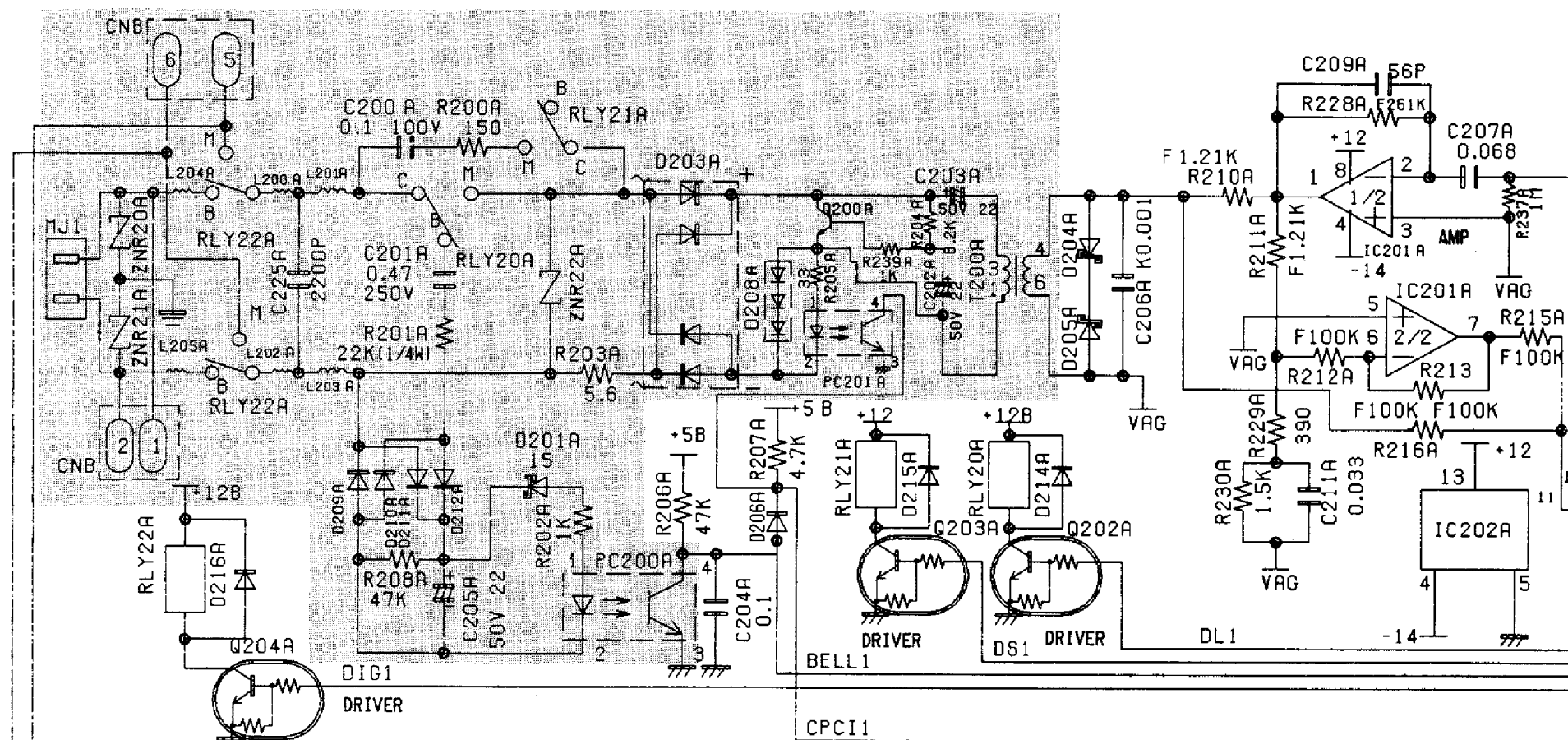
C

D

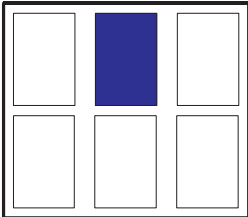
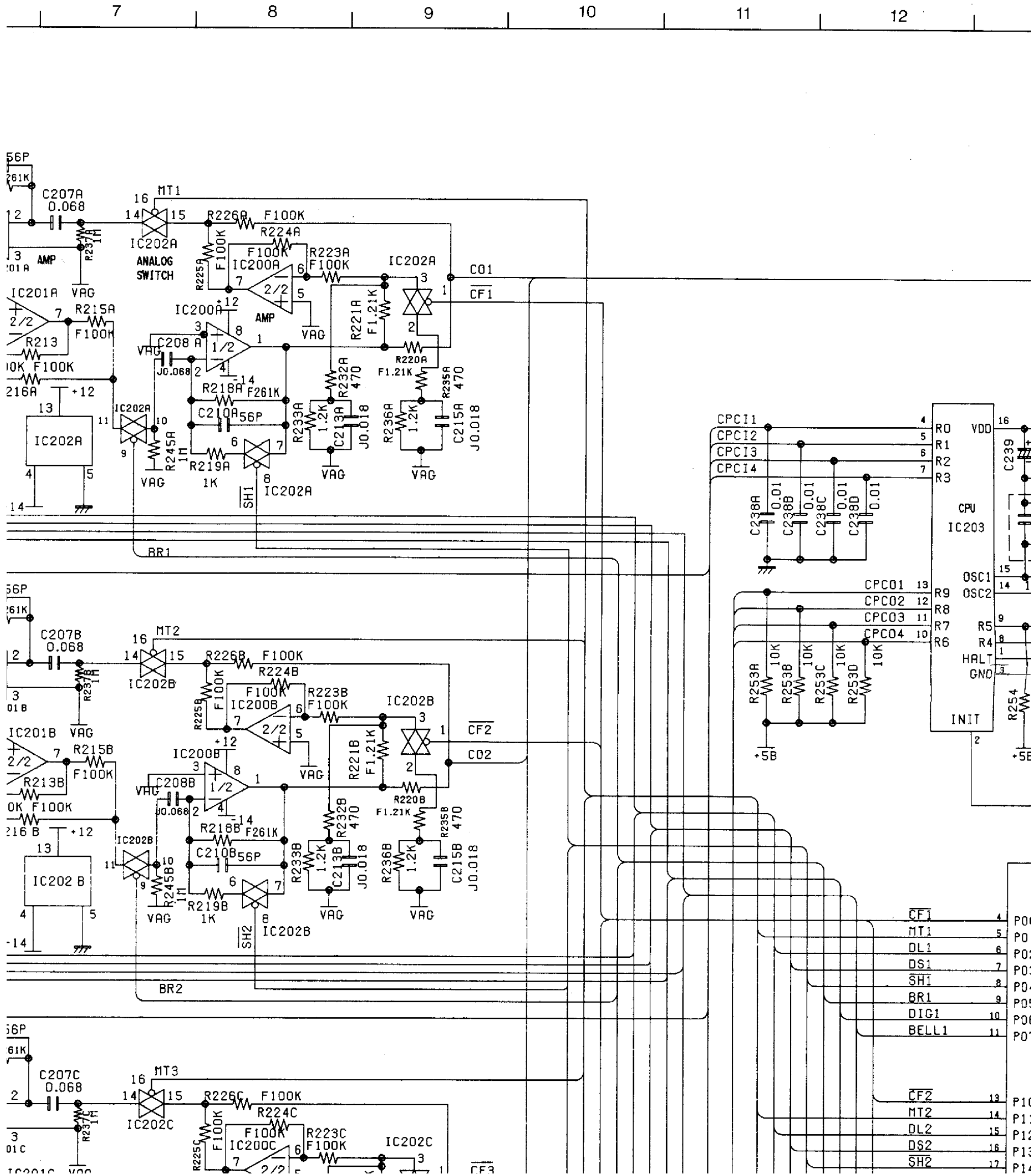
E

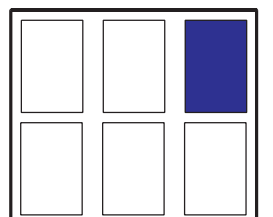
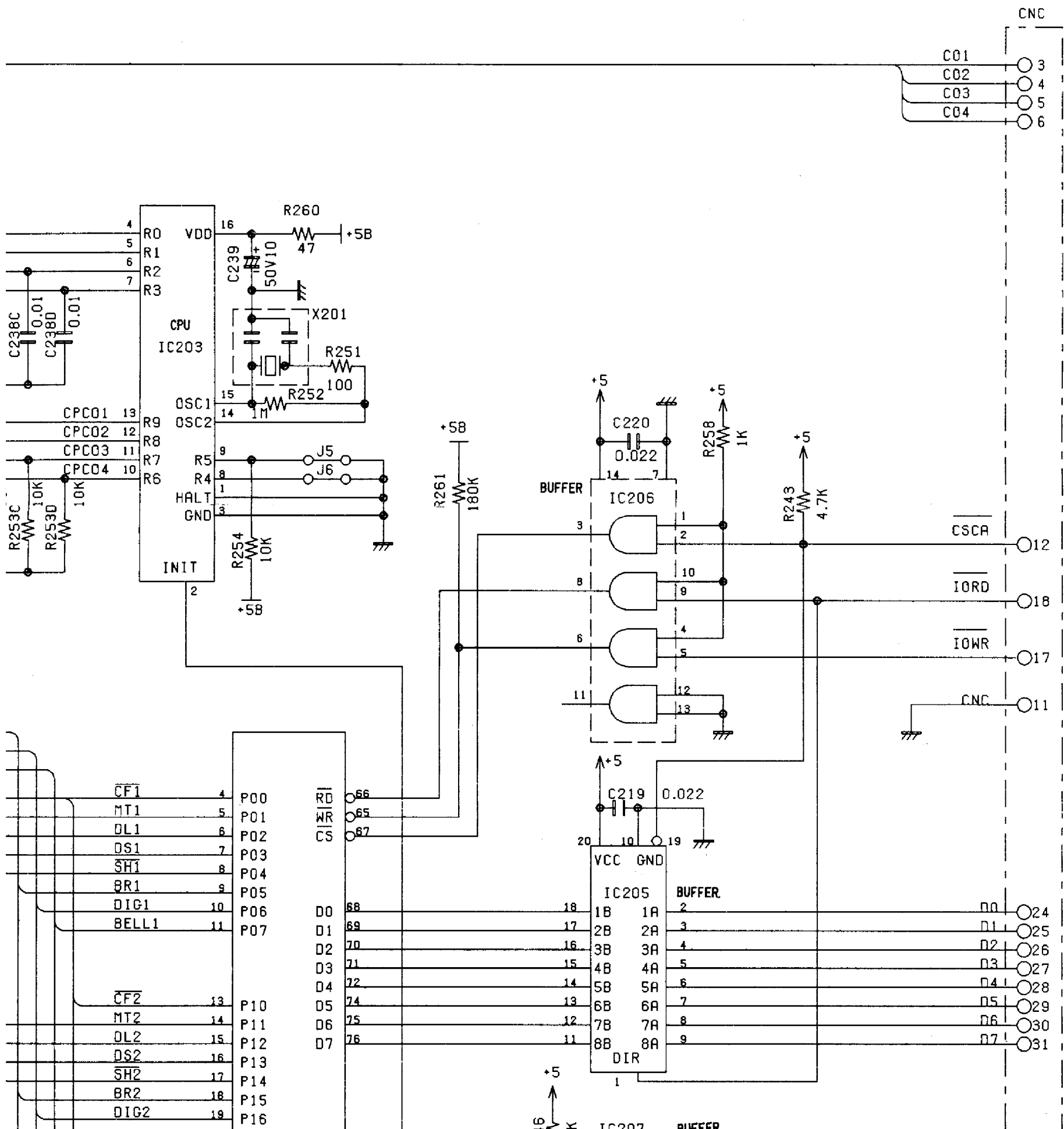
F

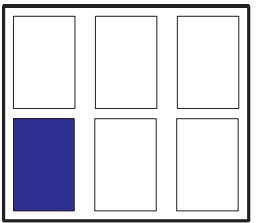
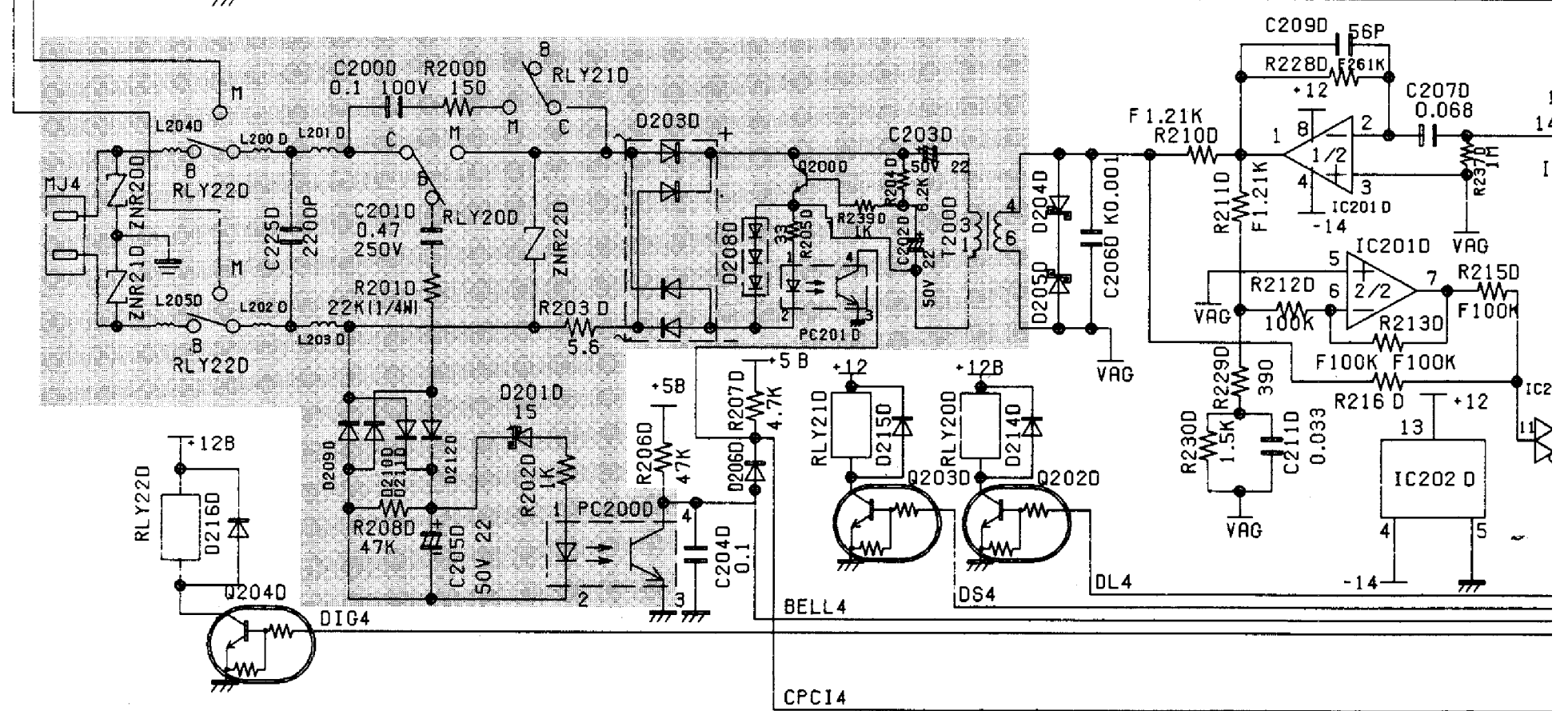
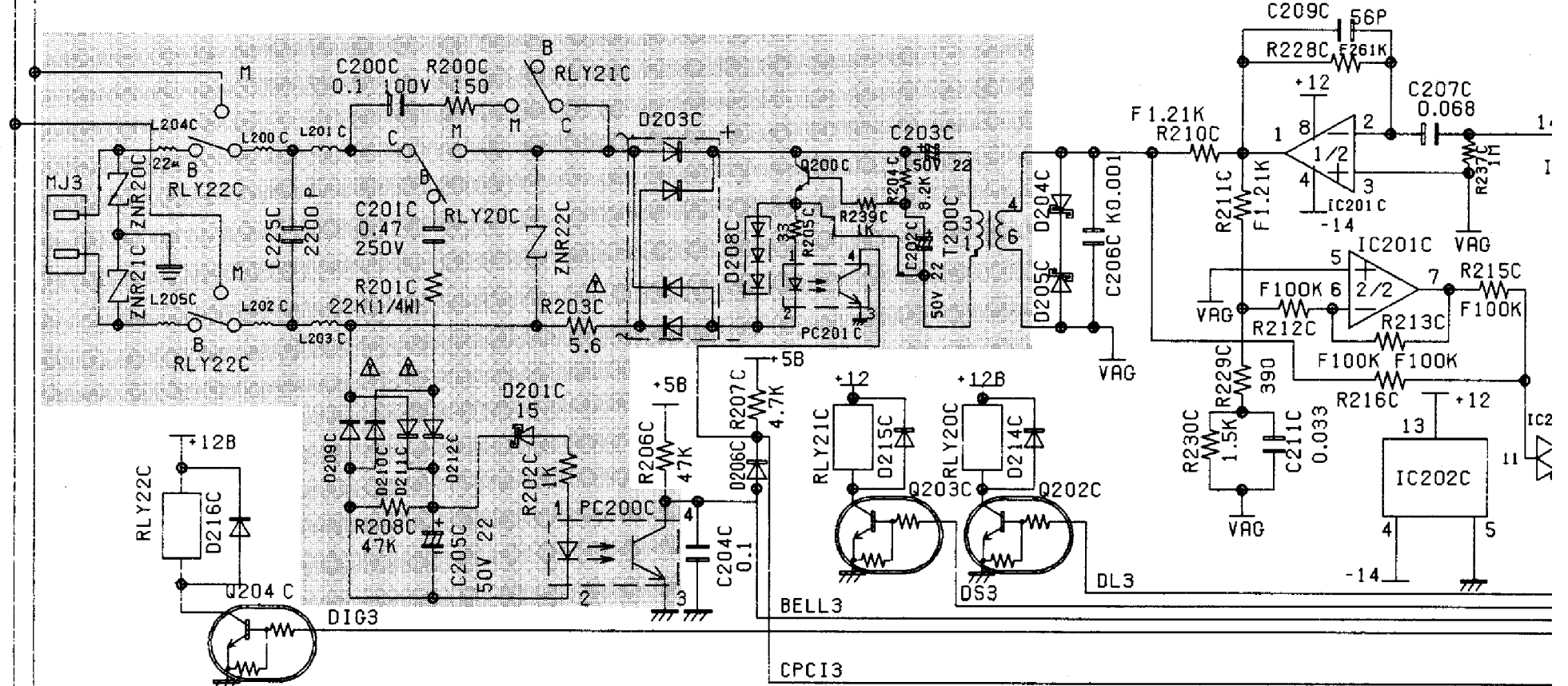
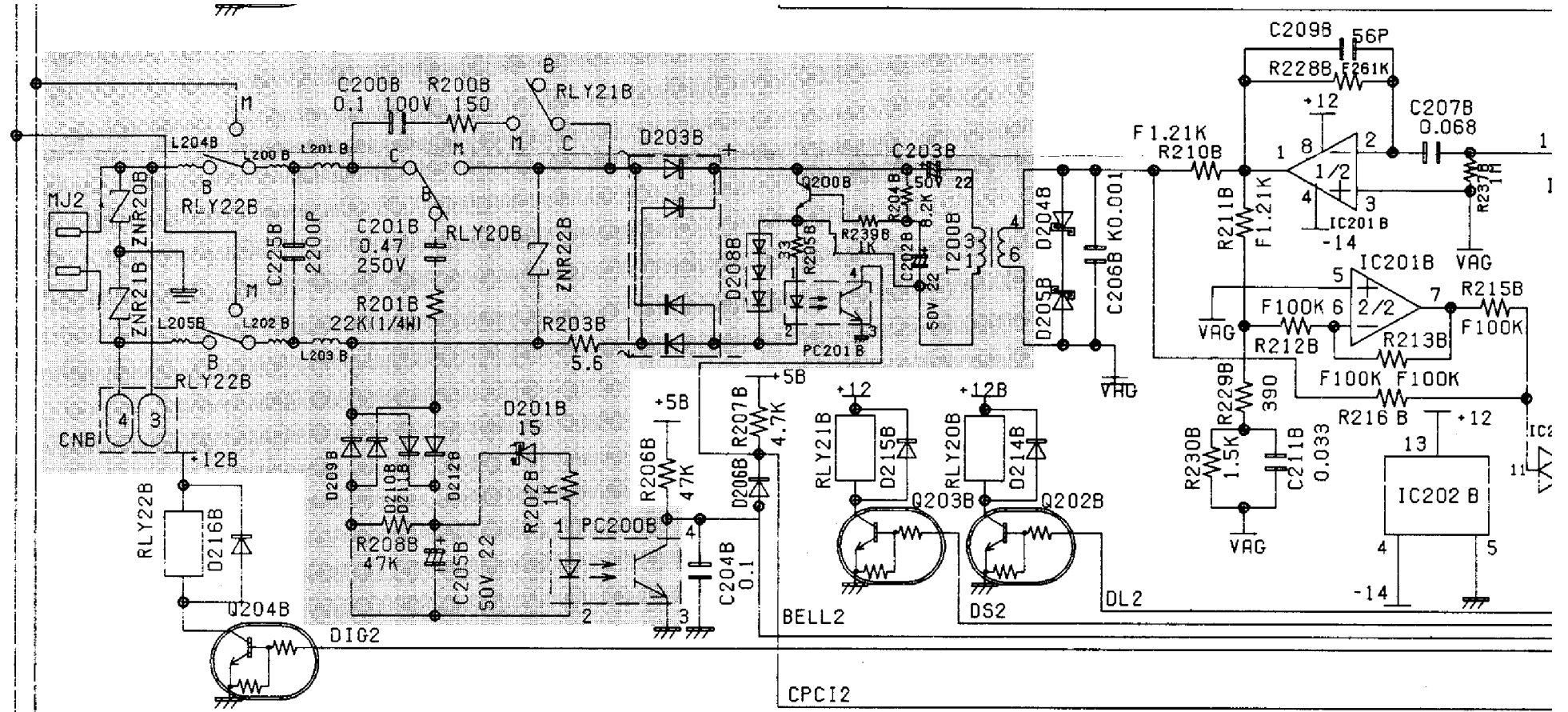
G

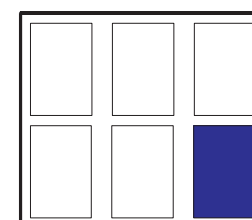


SCHEMATIC DIAGRAM (CO-1)









1

2

3

4

5

6

7

A

B

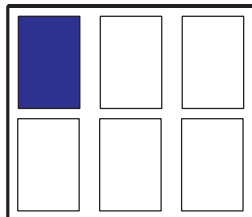
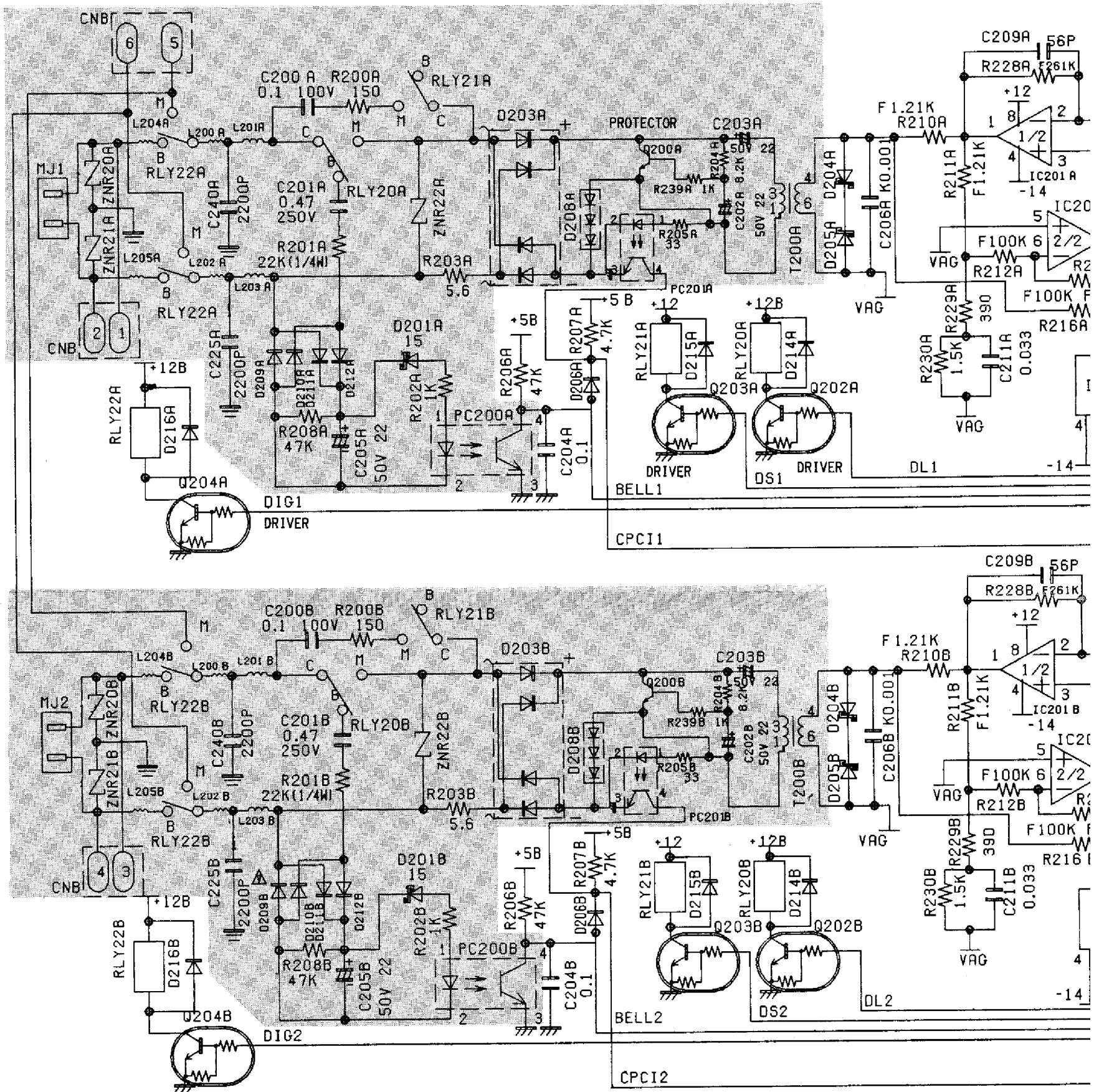
C

D

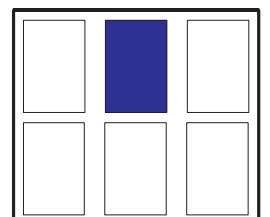
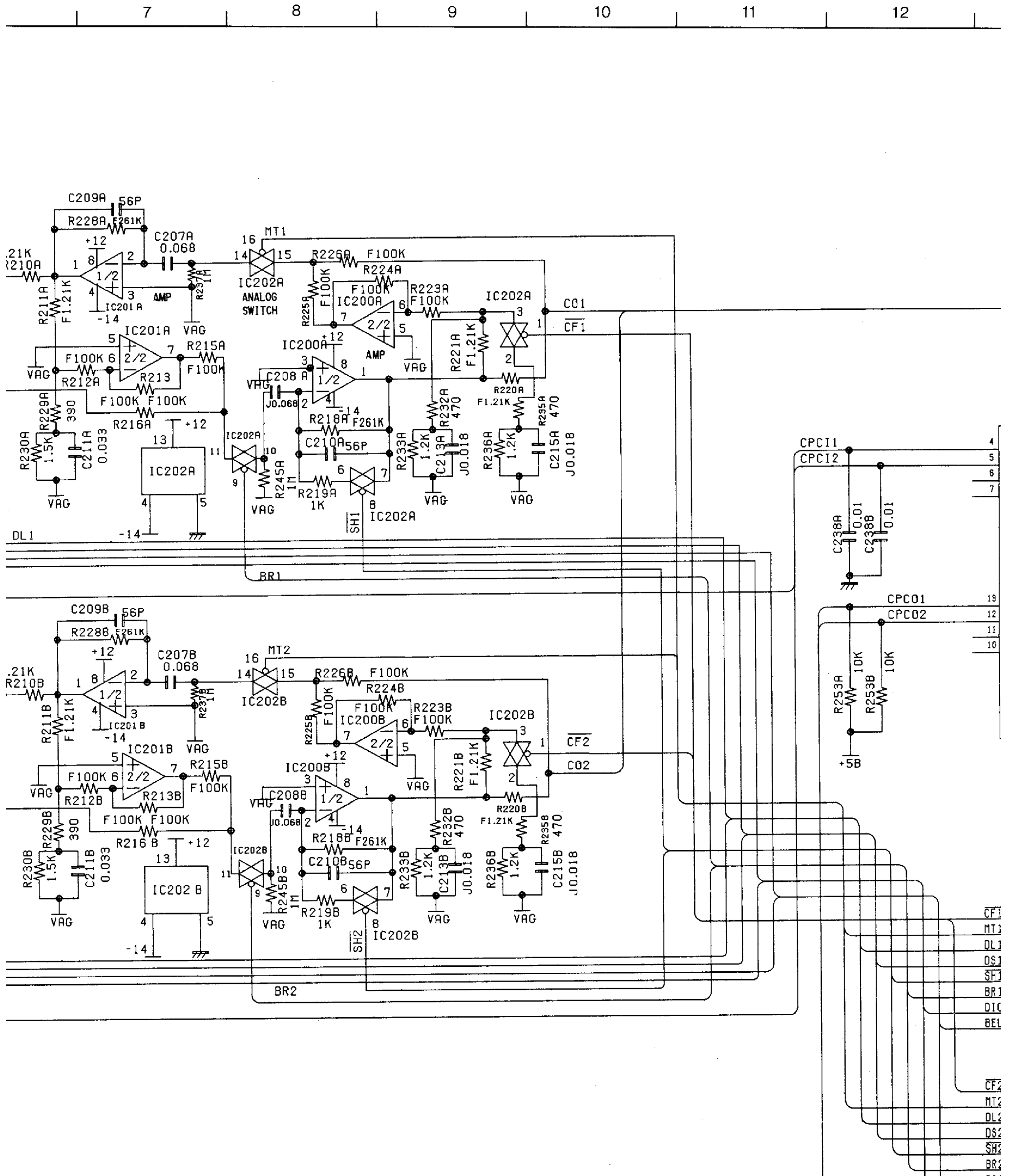
E

F

G



SCHEMATIC DIAGRAM (CO-2)



12

13

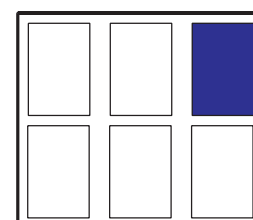
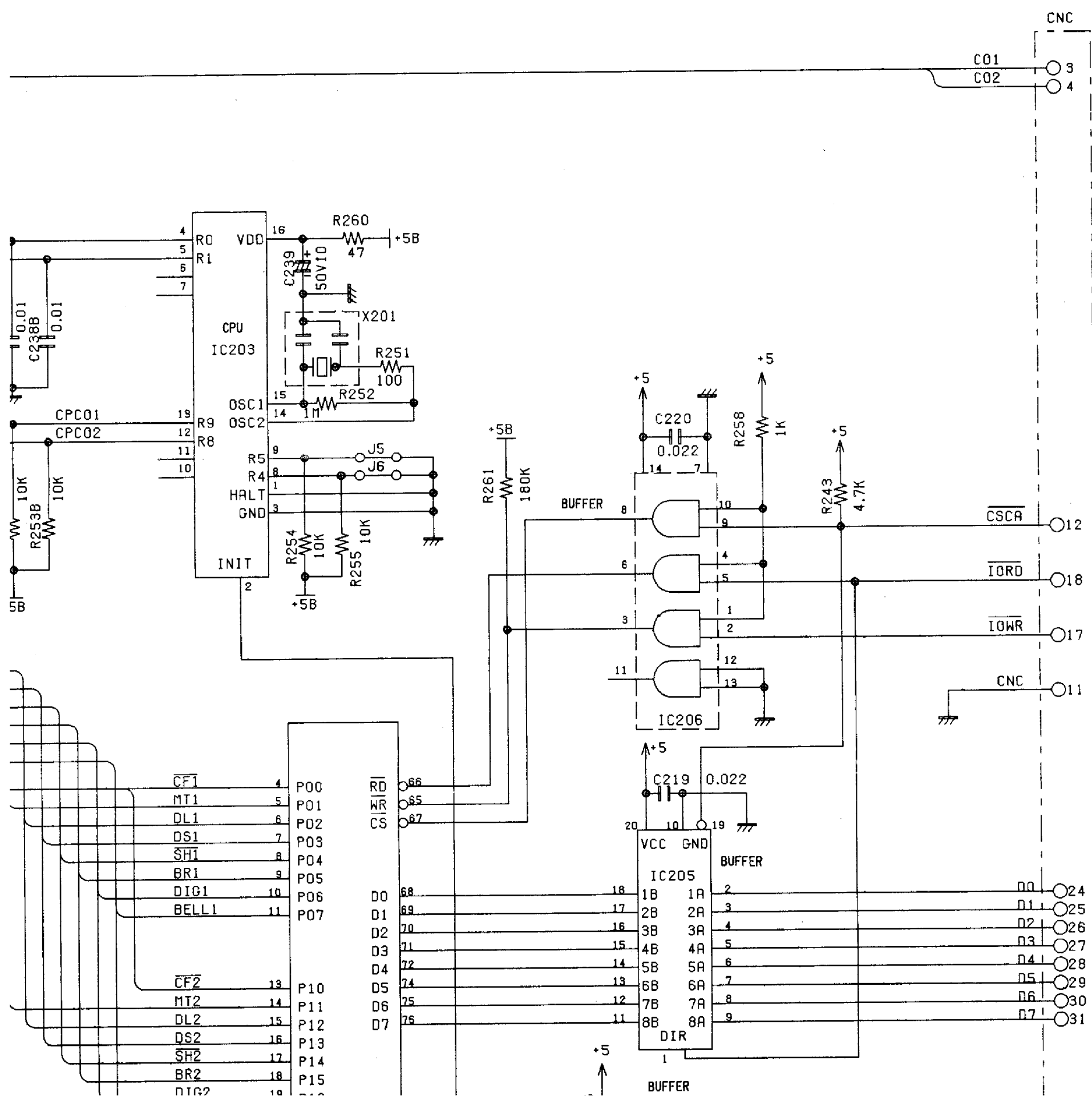
14

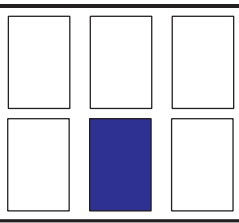
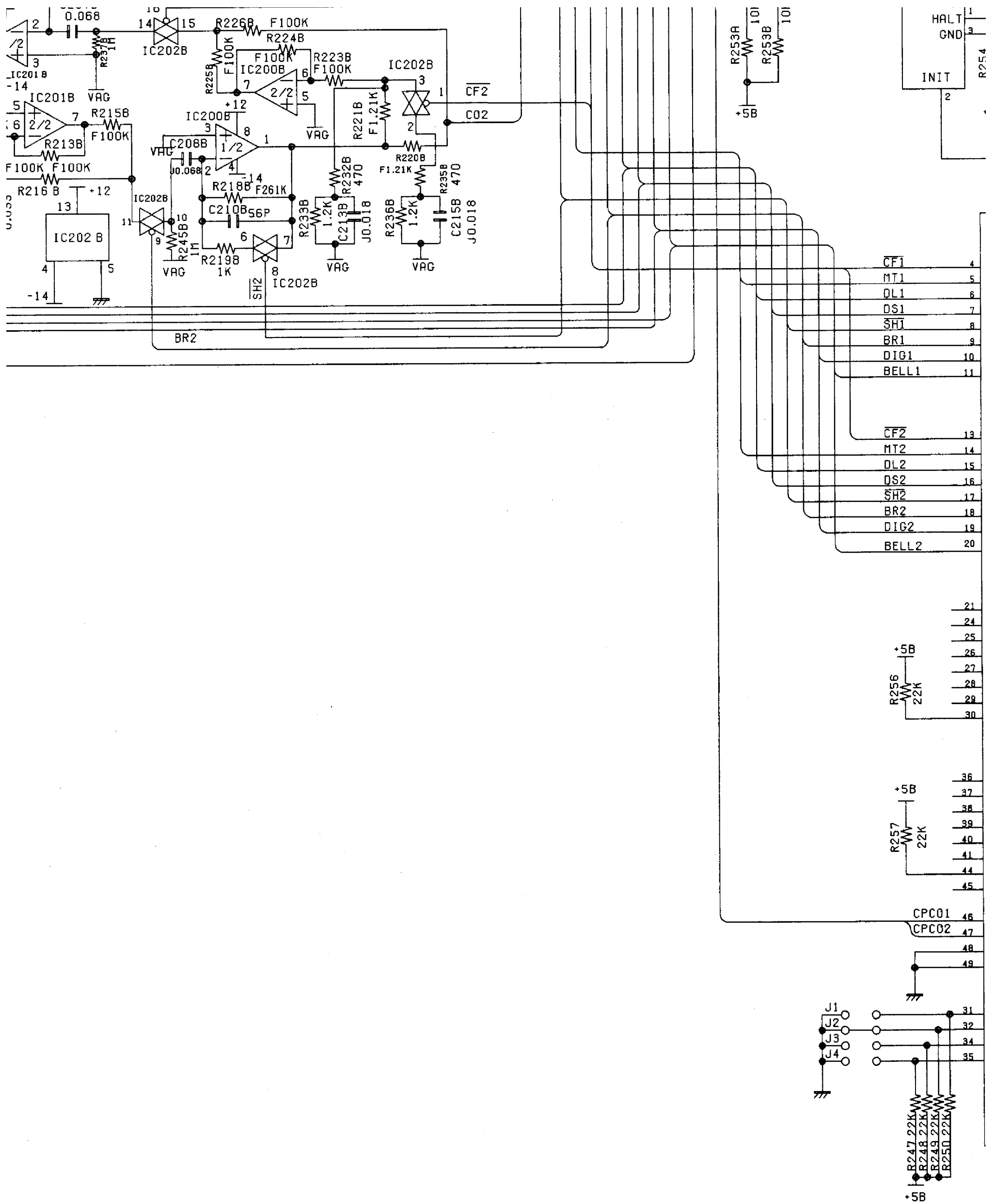
15

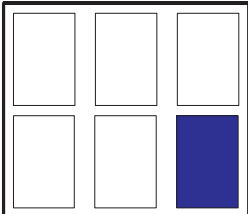
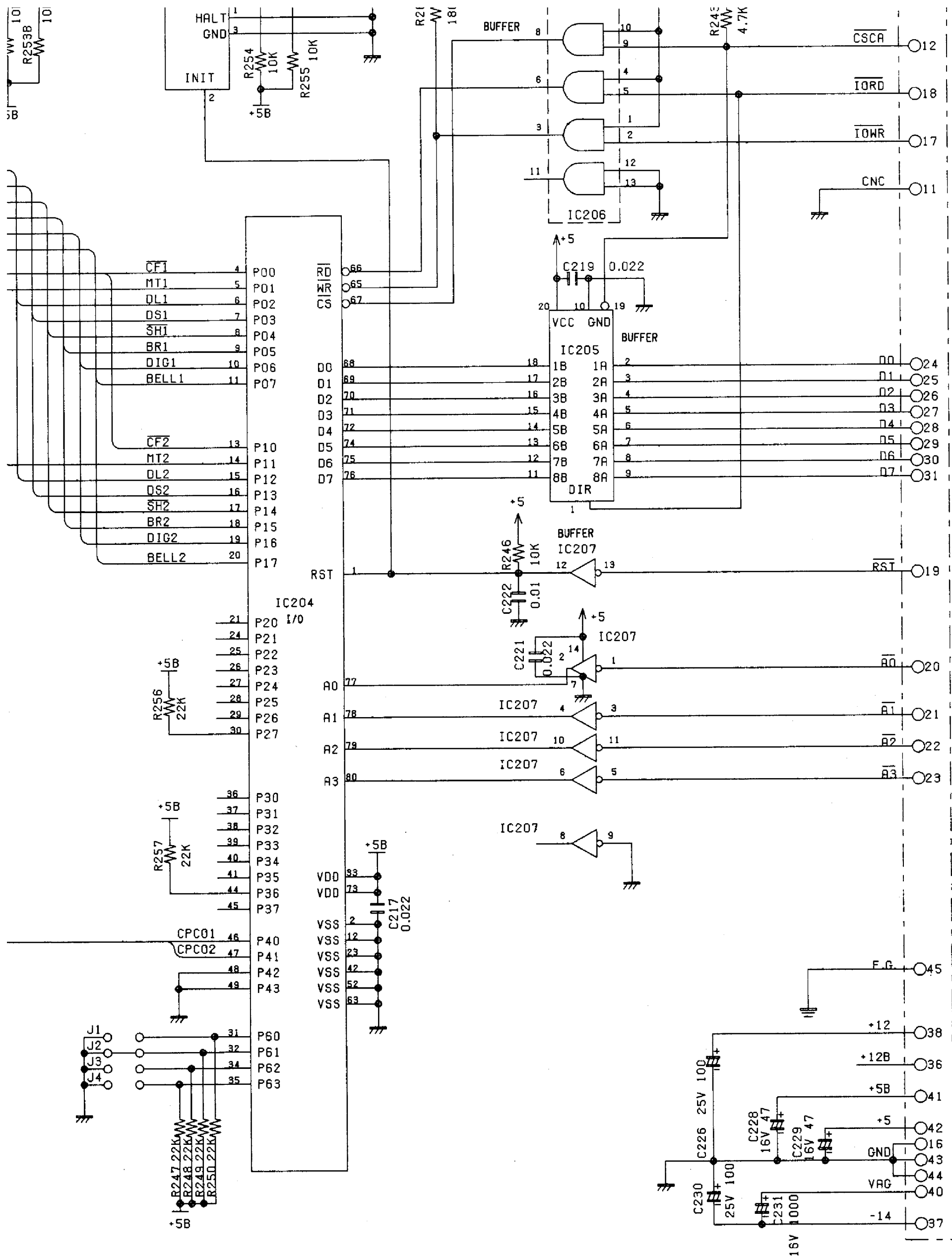
16

17

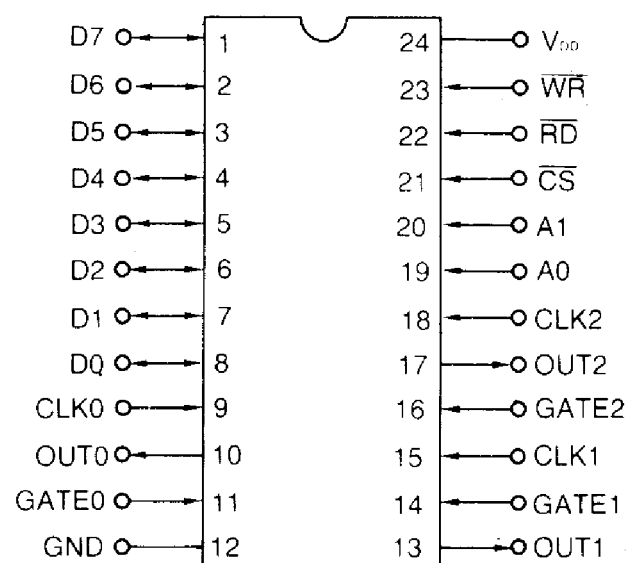
18



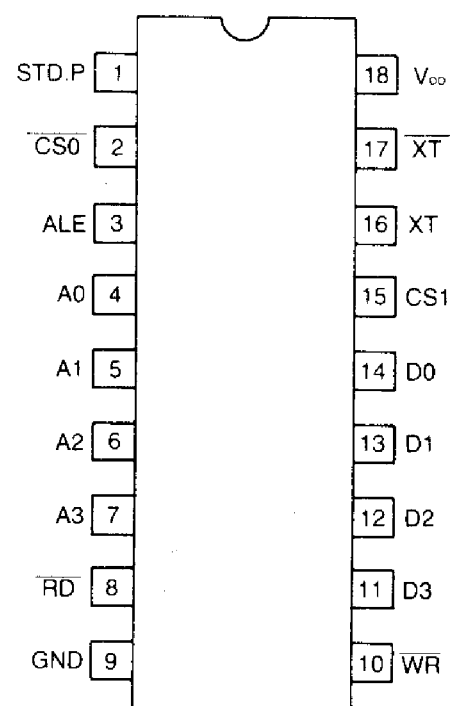




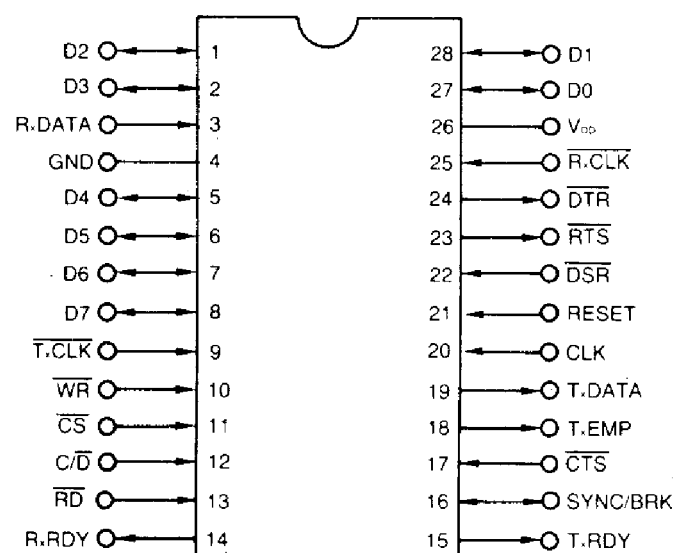
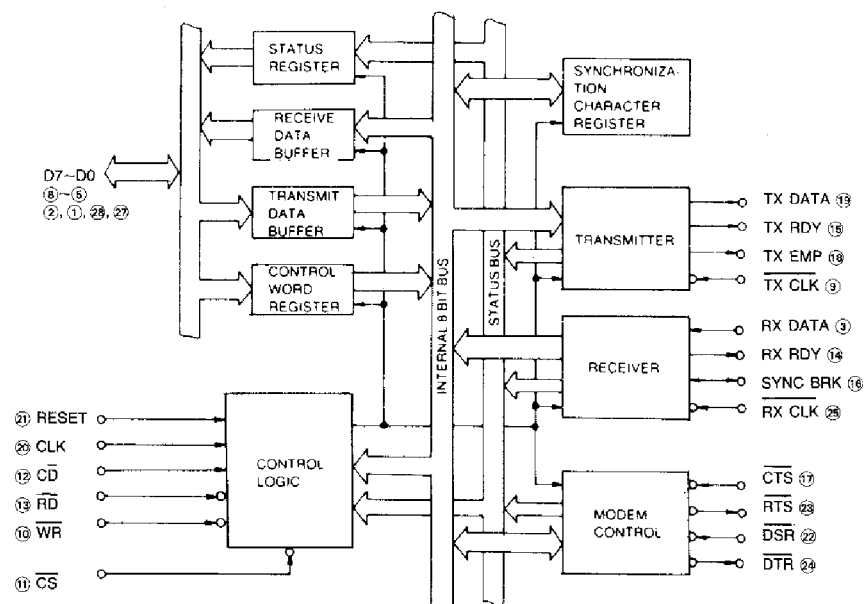
IC120 PQVIPD71054C



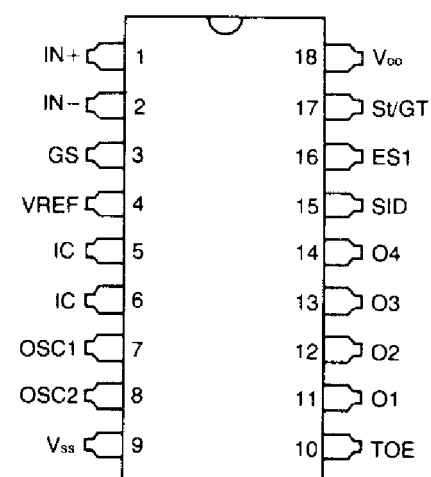
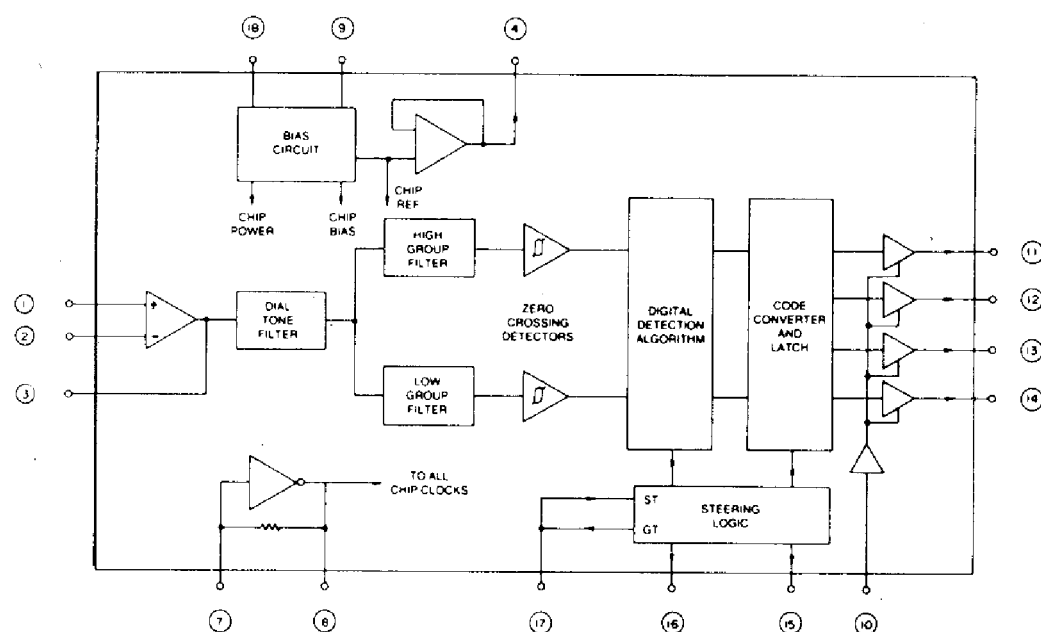
IC127 PQVIMS6242BS



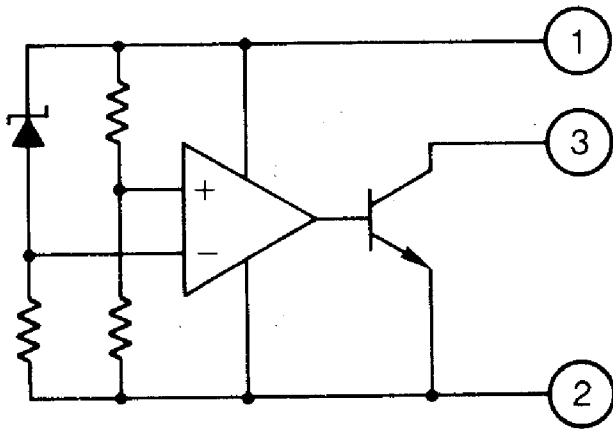
IC121 PQVIPD71051C



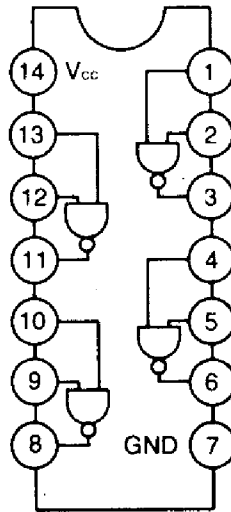
IC123, 124, 125 PQVIMT8870BC



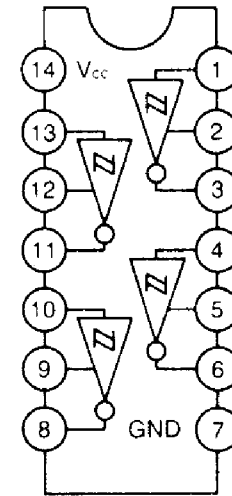
IC129, 141 PQVIPS520C



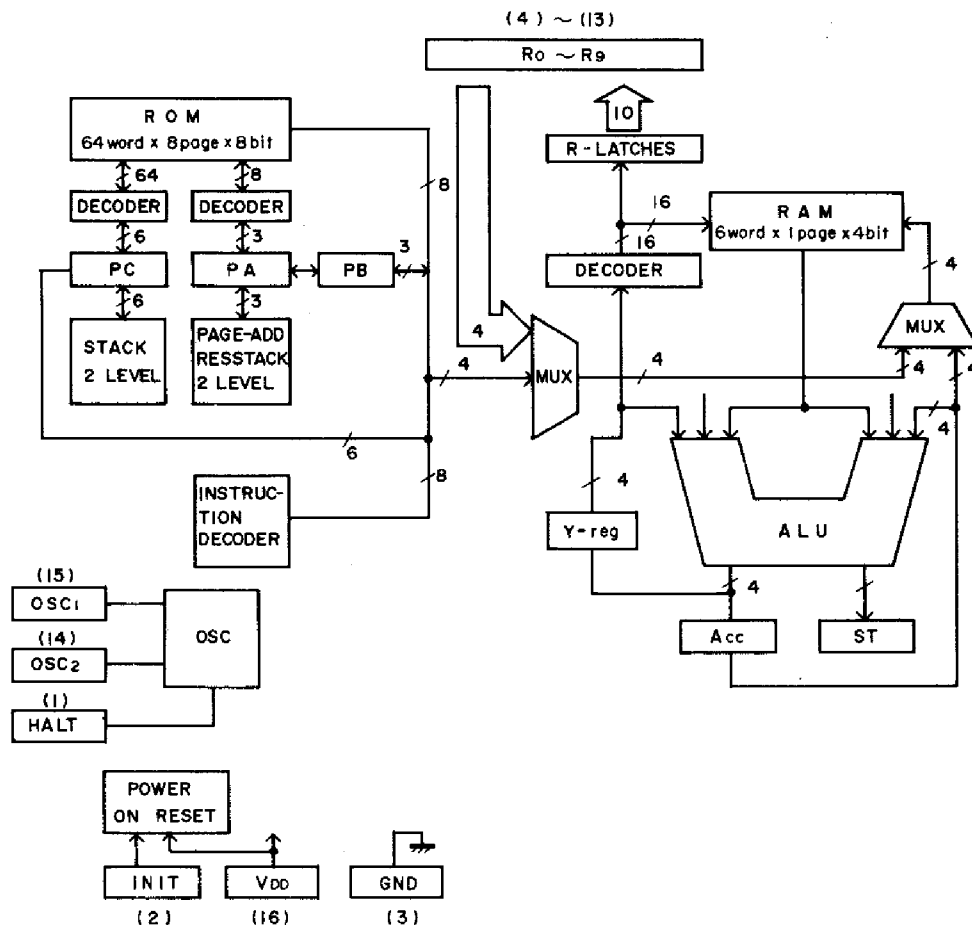
IC132 PQVIHD75188P



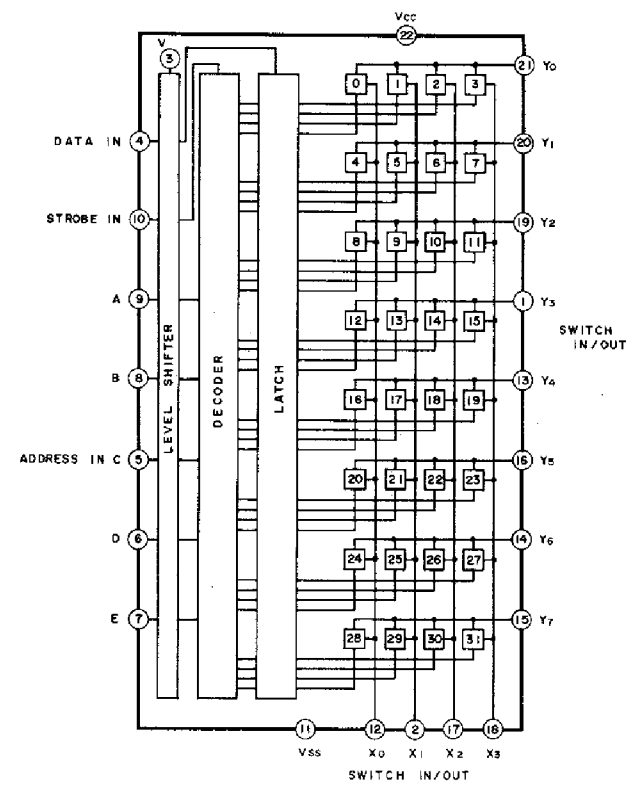
IC133 PQVIHD75189P



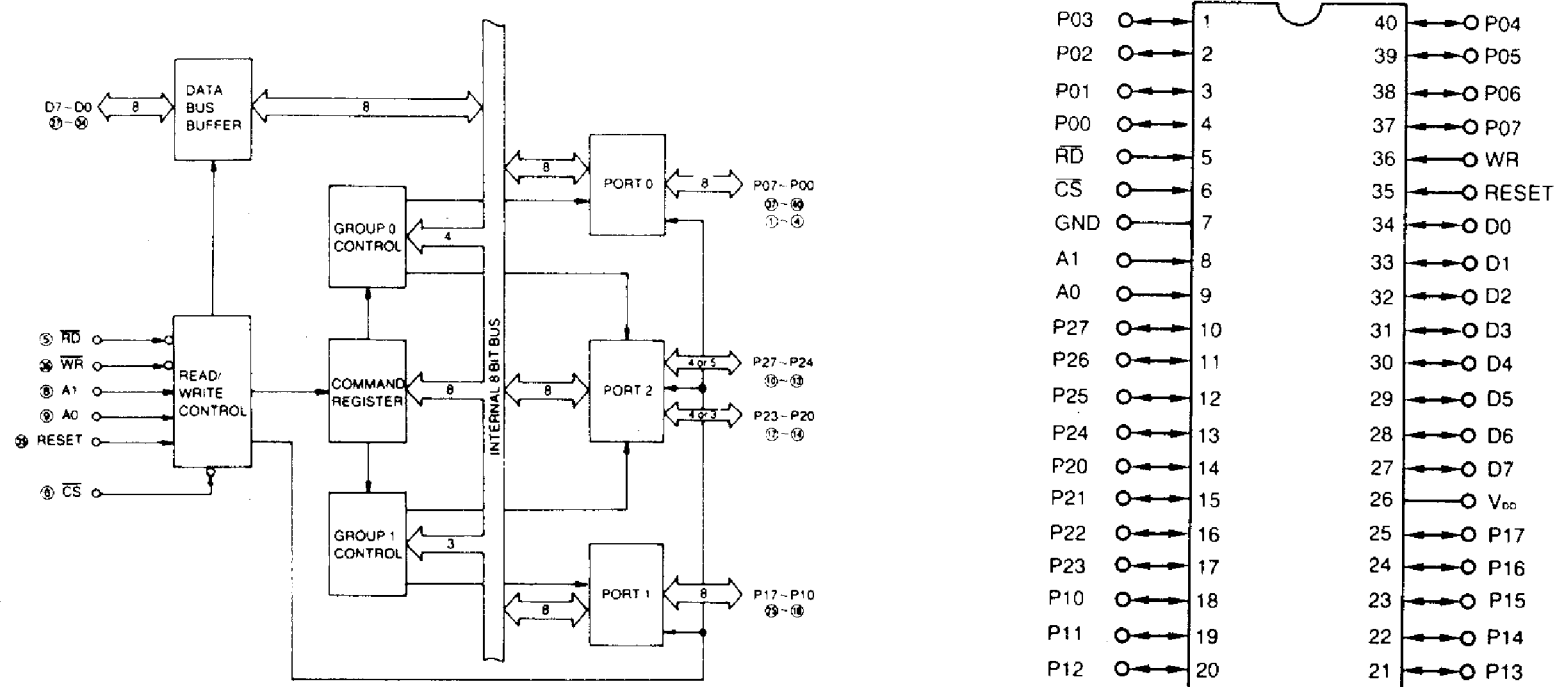
IC142 PQVIBU3140



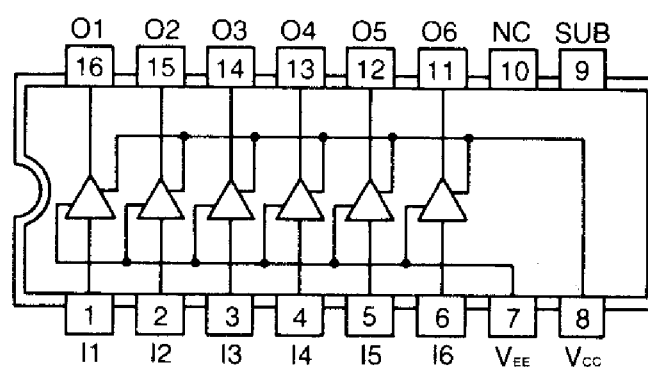
IC410-445 PQVIM402101P



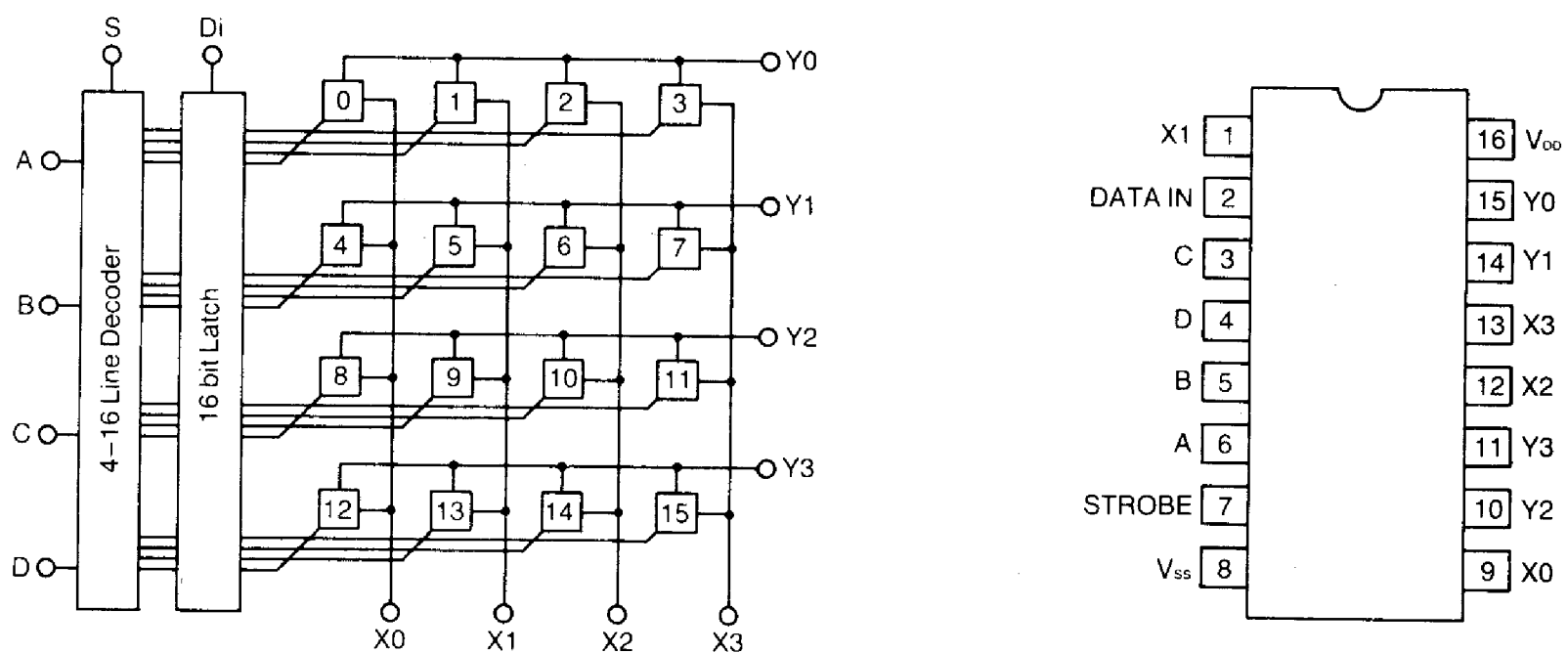
IC400 PQVIPD71055C



IC406-409 PQVITD62706P

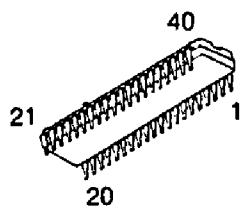
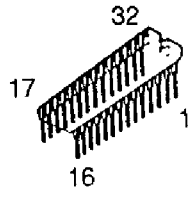
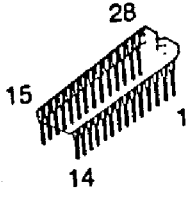
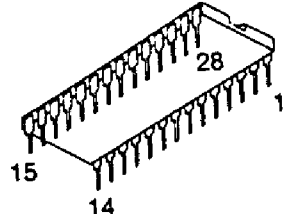
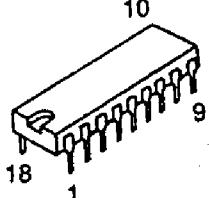
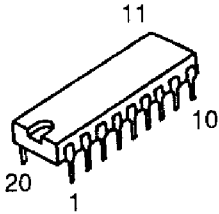
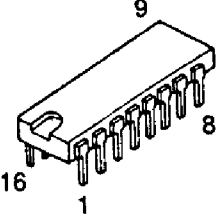
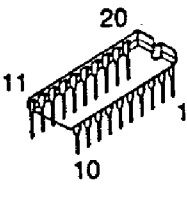
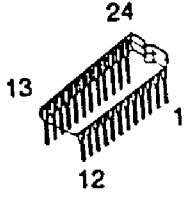
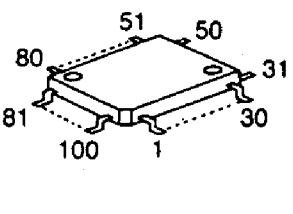
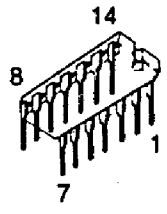
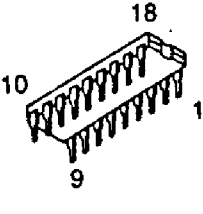
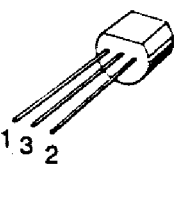
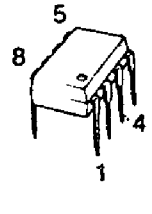
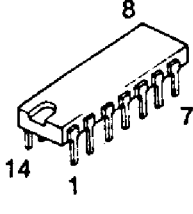
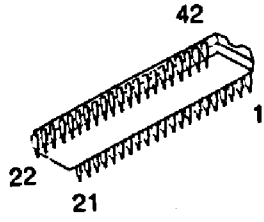
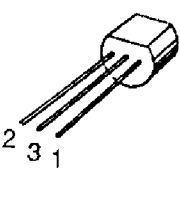
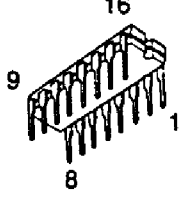
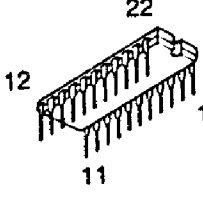
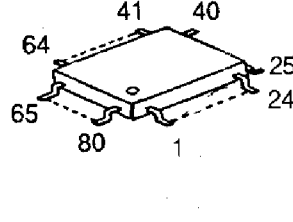
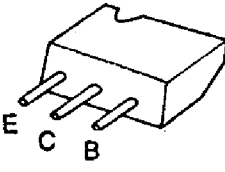
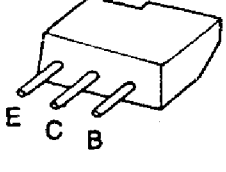
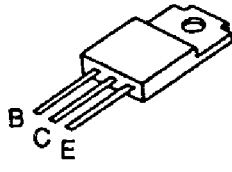
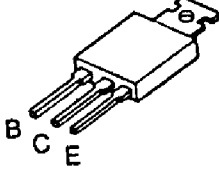
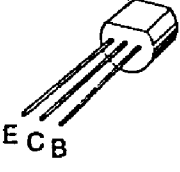
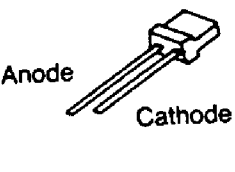
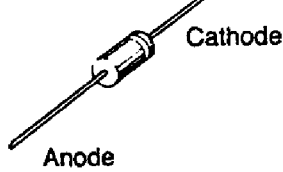
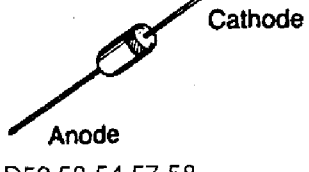
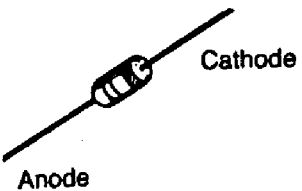
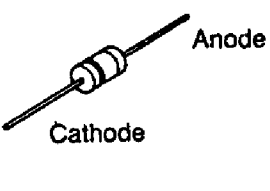
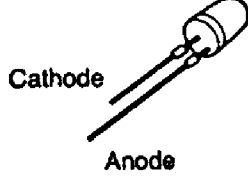


IC447, 448, 450, 451, 453-456 PQVIPD22100C

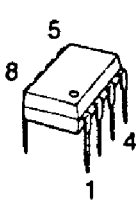
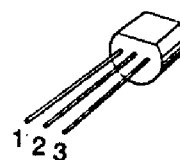
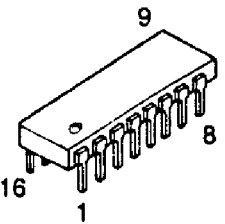
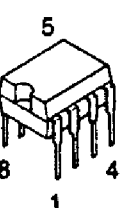
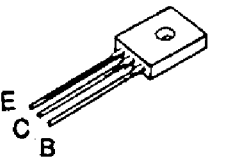
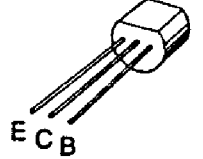
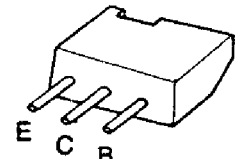
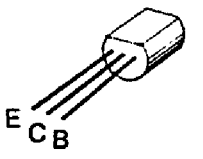
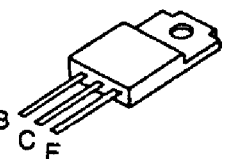
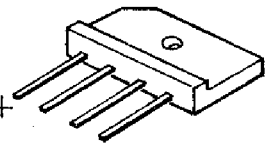
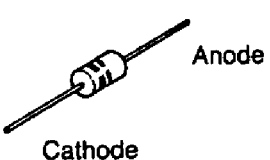
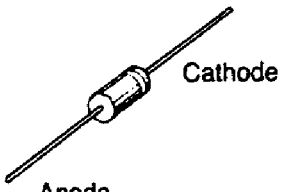
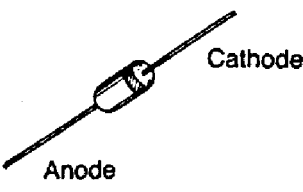
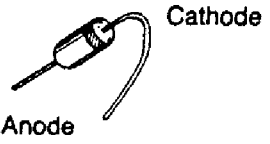
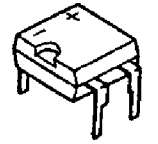
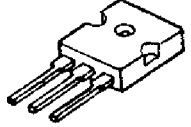
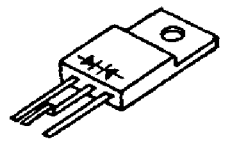


*1-15: Analog Switch

TERMINAL GUIDE OF IC'S, TRANSISTORS AND DIODES

 <p>IC100</p>	 <p>IC101</p>	 <p>IC102,103,121</p>	 <p>IC104,117</p>	 <p>IC105,127</p>
 <p>IC106,107,111,112</p>	 <p>IC108,113,114,119, 122,142,202A-202D</p>	 <p>IC109,110,205,303, 305,401</p>	 <p>IC115,120</p>	 <p>IC116</p>
 <p>IC118,132,133,137-140, 206,207,301,302,304, 402,403,467</p>	 <p>IC123,124,125</p>	 <p>IC129,141</p>	 <p>IC131,200A-200D, 201A-201D,461-466, 468,469</p>	 <p>IC134,135,136</p>
 <p>IC400</p>	 <p>IC404,405</p>	 <p>IC203,406-409,447, 448,450,451,453-456</p>	 <p>IC410-445</p>	 <p>IC204,300</p>
 <p>Q50,52</p>	 <p>Q100-111, 202A-202D, 203A-203D,204A-204D, 300A-300H,301A-301H, 302A-302H,303A-303H, 304A-304H,305A-305H, 306A-306H,Q307A-307H, 311A,311B,312A,312B, 400,402,404</p>	 <p>Q51,53</p>	 <p>Q200A-200D</p>	
 <p>Q401</p>	 <p>D10-13</p>	 <p>D50,51,55,56 208A-208D</p>	 <p>D52,53,54,57,58, 102-105,107-115, 117-121,203A-203D, 206A-206D</p>	<p>D209A-209D,210A-210D, 211A-211D,212A-212D, 214A-214D,215A-215D, 216A-216D,302H-302H, 305A-305H,308A-308H, 309A-309H,310A-310H, 311A-311H,312A-312H, 313,314A,314B, 438,439 400-435,VD100</p>
 <p>D100,204A-204D, 205A-205D,300A-300H, 301A-301H,307A-307H, 436,437</p>	 <p>D101,201A-201D</p>	 <p>LED1-3</p>		

(POWER UNIT SECTION)

 IC101,102	 IC201,206	 IC202,203,204	 IC205	 Q101,204,205
 Q102,103,104,201, 206,209,212	 Q105,210,211	 Q202,207	 Q203,208	 D101
 D102,103	 D104,202,205,209,212	 D105,106,109,111, 204,206,208,211	 D108	 D110
 D201	 D203,207,210,213			

ADJUSTMENTS

OSCILLATION PERIOD ADJUSTMENT

Perform the following adjustment after replacing IC127.

1. Connect the AC cord to the AC outlet (AC 120V, 60Hz).
2. Set the Power Switch to ON.
3. Remove the rubber part from the System Program Switch and set the System Program Switch to upper position.
(See Fig. 31)
(After adjustment, return the System Program Switch to "SET" position and attach the rubber part.)
4. Reciprocal light the Day and Night Indicators.
5. Connect the KX-T123210 and Personal Computer (or Data Terminal) by RS-232C cable.
6. Press the Data Key of the Personal Computer (or Data Terminal).

7.

```
@ WELCOME TO KX-T123210 EIA PROGRAMING
VER 1.0 PANASONIC CO. LTD.

@ SELECT MODE      : EDIT MODE.....ED (CR)
                   : SHOW MODE.....SH (CR)

> DIG
```

Picture of Personal Computer
(or Print of Data Terminal)

8. Input the DIG and press the Return Key.

9.

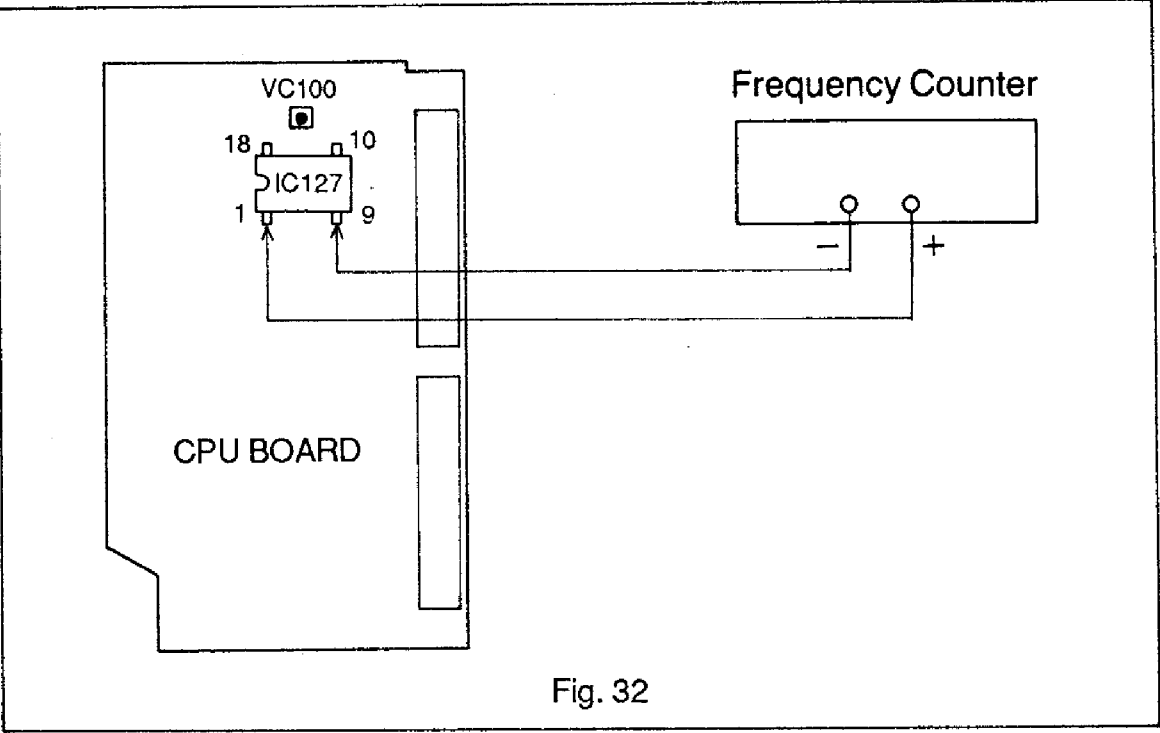
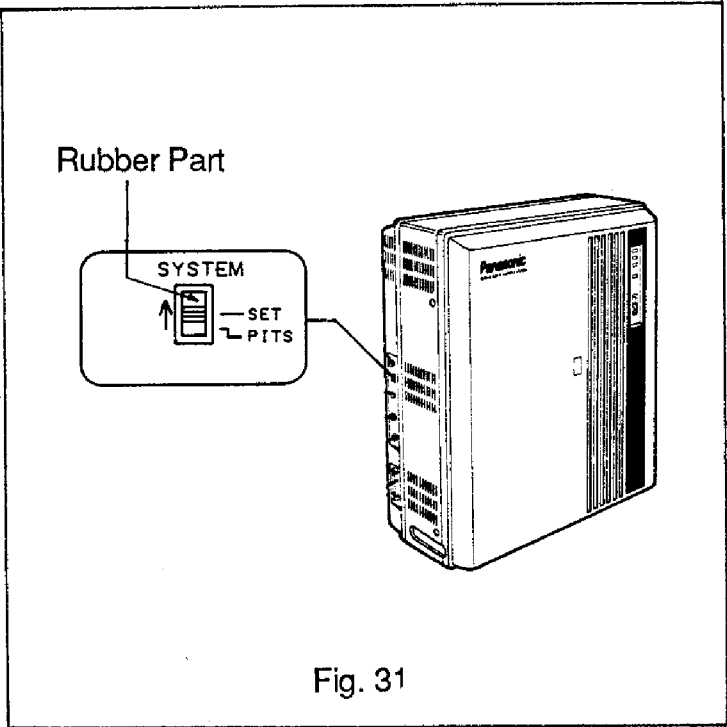
@ SELECT : ALL COMPONENTS....ALL (CR)
: SYSTEM.....SYS (CR)
: X-POINT.....XPT (CR)
: CO TRUNK.....COT (CR)
: LINE CIRCUIT.....LCT (CR)
: PRODUCTION.....PRO (CR)
: MODE END.....END (CR)

D> PRO

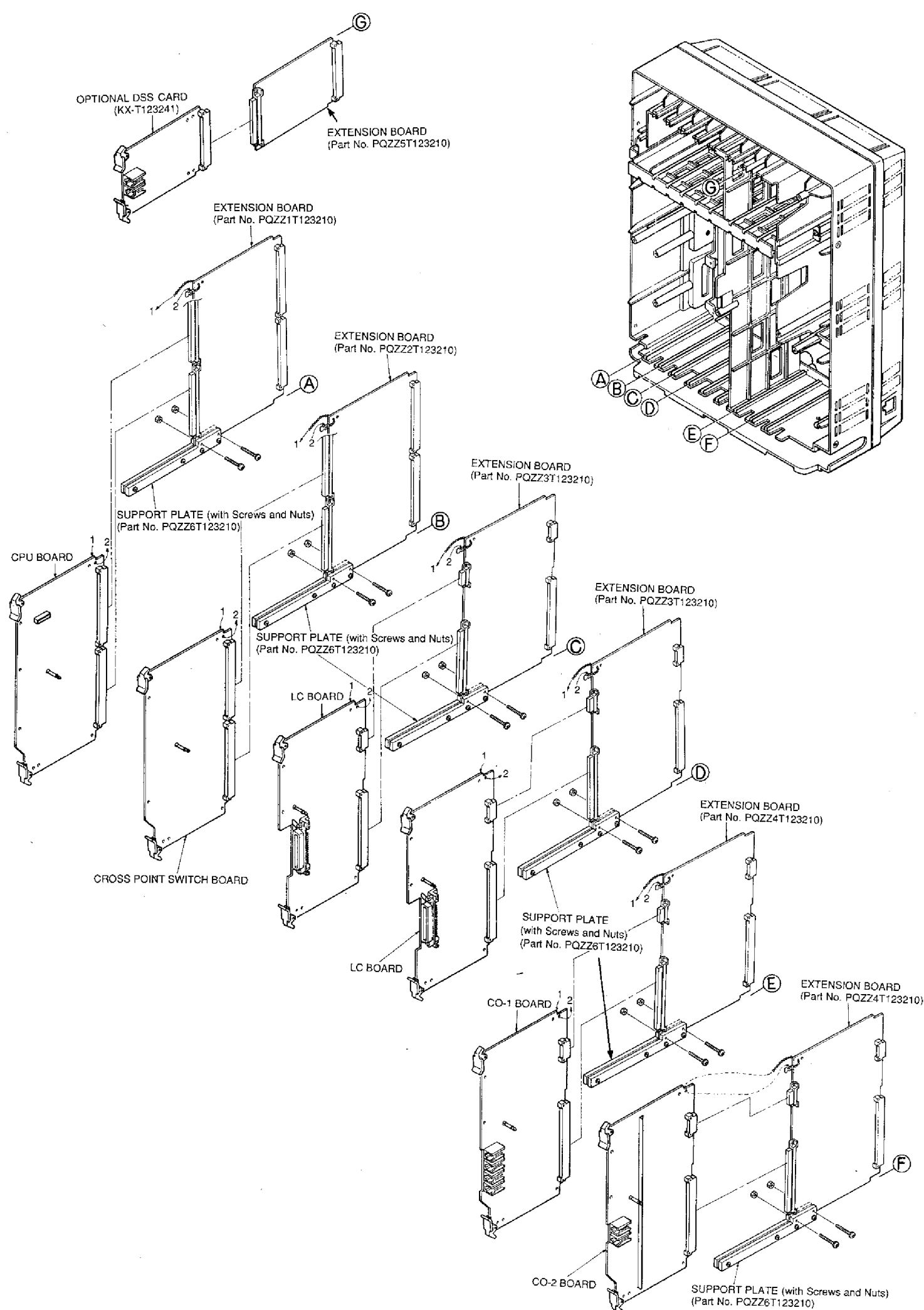
Picture of Parsonal Computer
(or Print of Data Terminal)

10. Input the PRO and press the Return Key.
11. Connect the frequency counter. (See Fig. 32)
12. Set the frequency counter to "PERIOD" position.
13. Adjust VC100 for a reading of () msec on the frequency counter.

Room temperature for adjusting (°C)	Period value (msec)	Room temperature for adjusting (°C)	Period value (msec)
14~14.9	15.624943 (±0.00001)	20~20.9	15.624880 (±0.00001)
15~15.9	15.624933 (±0.00001)	21~21.9	15.624876 (±0.00001)
16~16.9	15.624922 (±0.00001)	22~27.9	15.624870 (±0.00001)
17~17.9	15.624910 (±0.00001)	28~28.9	15.624876 (±0.00001)
18~18.9	15.624899 (±0.00001)	29~29.9	15.624880 (±0.00001)
19~19.9	15.624888 (±0.00001)		



EXTENSION BOARD CONNECTING METHOD



OPTIONAL EXPANSION CARD AND EXTENSION BOARD COMPAISON TABLE		
OPTIONAL EXPANSION CARD	EXTENSION BOARD PART NO.	SUPPORT PLATE PART NO.
KX-T123270 (8 Extensions)	PQZZ3T123210	PQZZ6T123210
KX-T123271 (4 Extensions)	PQZZ3T123210	PQZZ6T123210
KX-T123280 (4 CO's)	PQZZ4T123210	PQZZ6T123210
KX-T123281 (2 CO's)	PQZZ4T123210	PQZZ6T123210

KX-T123210

REPLACEMENT PARTS LIST

Model KX-T123210

Notes:

- Printed circuit board assembly and power unit with mark (NLA) is no longer available after production discontinuation of the complete set.
- Important safety notice.
Components identified by the Δ mark special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.
- The S mark indicates service standard parts and may differ from production parts.
- RESISTORS & CAPACITORS
Unless otherwise specified.
All resistors are in ohms (Ω) k=1000 Ω , M=1000k Ω
All capacitors are in MICRO FARADS (μ F) P= μ F
*Type & Wattage of Resistor

ERC:Solid	ERX:Metal Film	PQRD:Carbon
ERD:Carbon	ERG:Metal Oxide	PQRQ:Fuse
PQ4R:Chip	ERO:Metal Film	ERF:Wire Wound

Wattage

10,16,18:1/8W	14,25,S2:1/4W	12,50,S1:1/2W	1:1W	2:2W	5:5W
---------------	---------------	---------------	------	------	------

*Type & Voltage of Capacitor

ECFD:Semi-Conductor	ECCD,ECKD,PQCBC,PQVP : Ceramic
ECQS:Styrol	ECQM,ECQV,ECQE,ECQU,ECQB : Polyester
PQCBX,ECUV:Chip	ECEA,ECSZ,ECOS : Electrolytic
ECMS:Mica	ECQP : Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others	
1H:50V	05:50V	0F:3.15V	0J :63V	1V :35V
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V
2E:250V	2:200V	1V:35V	1C :16V	1J :63V
2H:500V		0J:6.3V	1E,25:25V	2A :100V

Ref. No.	Part No.	Part Name & Description	Pcs
----------	----------	-------------------------	-----

CABINET & ELECTRICAL PARTS

K1	PQYFT123210M	Front Cabinet Assembly	1
K2	PQYMT123210M	Cabinet Body Assembly	1
K2-1	PQGT295Z	Name Plate	1
K3	PQYUT123210M	Rear Cover Assembly	1
K4	PQGG52Z	LED Grille	1
K5	PQK54Z	Indication Plate	1
K6	PQUV66Z	Cover	1
E1	P-01H-F2G1	Ni-Cd Battery	1
E2	PQLT1U9M1A	Bell Transformer	1
E3	RME143Z	Cord Band	2
E4	RME144Z	Cord Band	2

ACCESSORIES AND PACKING MATERIALS

A1	PQHE10Z	Curl Plug	3
A2	PQHE5008Z	Screw	3
A3	PQQX5442Z	Installation Manual	1
A4	PQQX5443Z	User Guide	1
A5	PQQX9183Z	Instruction Book (For Additionl Feature)	1
P1	PQPK516Z	Packing Case	1
P2	PQPN9039Z	Pad Complete	1
P3	PQPE101Z	Pad	1
P4	PQPP118Z	Protection Cover (for Unit)	1

Ref. No.	Part No.	Part Name & Description	Pcs
----------	----------	-------------------------	-----

MAIN BOARD PARTS

PCB1	PQWP1T123210	Main P.C. Board Assy (NLA)	1
D10,13	LN220RPH	(DIODES) LED	2
D11	LN420YPH	LED	1
D12	LN320GPH	LED	1
T1,2,3	PQLT2D6B	(TRANSFORMERS & COILS) Transformer	3
L1,2,4, L5,7-9, L11,13	PQLQZM2R2M	Choke Coil	9
L3,6	PQLQZM4R7K	Choke Coil	S 2
SW	EVQQJH12T	(SWITCHES) Switch, Reset	1
SW	PQSS3A14Z	Switch, Mode	1
R1-14	ERD16TJ103	(RESISTORS) 10k	14
R15-17	ERD16TJ821	820	3
R19-22	ERD16TJ821	820	4
JA1,2	PQJ1E1Y	(JACKS & CONNECTORS) Jack, Paging	2
JA3	RJJ19Y	Jack, Earphone	1
CN1-3, 6A-6D, 8A-8C	PQJS45S30Z	Connector, 45P	10
CN5A- 5D,7A- 7C	PQJS8S32Z	Connector, 8P	7
CN9, CN10A, 10B,11	PQJS64S30Z	Connector, 64P	4
CN12- CN5	PQJS50S33Z	Connector, 50P	4
CN4	PQJS90S30Z	Connector, 90P	1
CN16	PQJS5R31Z	Connector, 5P	1
CN17	PQJS5R32Z	Connector, 5P	1
CN18	PQJS6R31Z	Connector, 6P	1
CN19,	PQJS10R31Z	Connector, 10P	2
CN20			
CN21	PQJS25P31Z	Socket, EIA	1
CN22	PQJS2L44Z	Connector, 2P	1
J26	PQJP5D13Z	Connector, 5P	1

CPU BOARD PARTS

PCB2	PQWP2T123210	CPU P.C. Board Assy (NLA)	1
IC100	PQVIMS80C88	(ICs) IC	1
IC101/	PQWIT123210M	IC (ROM Kit)	1
IC104			
IC102	PQVIPD83257C	IC	S 1
IC103	PQVIHM62256L	IC	S 1
IC105	PQVIMS8C84A2	IC	S 1
IC106	PQVIM7H245P	IC	1
IC107	PQVIM7H245P	IC	1
IC108	PQVIM7H174P	IC	1
IC109	PQVIHD7L640P	IC	1
IC110	PQVIHD7L240P	IC	1
IC111	PQVIM7H373P	IC	1
IC112	PQVIM7H373P	IC	1
IC113	PQVIM7H137P	IC	1
IC114	PQVIHD7L138P	IC	1
IC115	PQVIHD7L154P	IC	1
IC116	PQVI63HB110	IC	1
IC117	PQVIMS8C59A2	IC	S 1
IC118	PQVIM7H107P	IC	1
IC119	PQVITC7H138P	IC	S 1
IC120	PQVIPD71054C	IC	S 1
IC121	PQVIPD71051C	IC	S 1

Ref. No.	Part No.	Part Name & Description	Pcs
IC122	PQVILR4089	IC	1
IC123	PQVIMT8870BC	IC	3
IC124			
IC125			
IC126	Not Used		
IC127	PQVIMS6242BS	IC	1
IC128	Not Used		
IC129	PQVIPS520C	IC	1
IC130	Not Used		
IC131	PQVINJM4558D	IC	1
IC132	PQVIHD75188P	IC	1
IC133	PQVIHD75189P	IC	1
IC134	PQVIM7H32P	IC	1
IC135	PQVIM7H02P	IC	1
IC136	PQVITC7H00P	IC S	1
IC137	PQVITC7H04P	IC S	1
IC138	PQVIHD7LS04P	IC	1
IC139	PQVITC7H04P	IC S	1
IC140	PQVITC7H04P	IC S	1
IC141	PQVIPS520C	IC	1
IC142	PQVIBU3140	IC	1
Q100-	DTC124EA	(TRANSISTORS) Transistor (Si)	4
Q103			
Q104	Not Used		
Q105	2SC2021	Transistor (Si)	1
Q106	2SA937	Transistor (Si)	1
Q107	DTC124EA	Transistor (Si)	1
Q108	DTA124EA	Transistor (Si)	1
Q109	DTA124EA	Transistor (Si)	1
Q110	DTC124EA	Transistor (Si)	1
Q111	DTA143XA	Transistor (Si)	1
D100	MA4091	(DIODES) Diode (Si)	1
D101	MA4130	Diode (Si)	1
D102-	1SS131	Diode (Si)	3
D104			
D105	Not Used		
D106	Not Used		
D107-	1SS131	Diode (Si)	9
D115			
D116	Not Used		
D117-	1SS131	Diode (Si)	5
D121			
VD100	PQVD1SV124	Diode (Si)	1
VC100	PQCVTZB30B	(TRIMMER) Trimmer	1
CA101	PQXF4WB04	(COMPONENT COMBINATIONS) Capacitor Array	1
Z108	EXBP84103K	Resistor Array S	1
X100	PQWET123210M	(CRYSTAL OSCILLATORS) Crystal Oscillator Assembly	1
X101	Not Used		
X102	PQVCX3579H5R	Crystal Oscillator	1
X103	PQVCL3276N4Z	Crystal Oscillator	1
TH100	PQRRTS104U	(THERMISTERS) Thermister	1
TH101	PQRRTS203U	Thermister	1
L100-	PQLQZM1R5M	(COILS) Choke Coil	4
L103			
L104	PQLQZM2R2M	Choke Coil	1
L105	PQLQZM2R2M	Choke Coil	1

Ref. No.	Part No.	Value	Pcs
R68	ERD16TJ220	(RESISTORS) 22	1
R69-72	ERD16TJ103	10k	4
R83	ERD16TJ101	100	1
R74	ERD16TJ221	220	1
R75-77	ERD16TJ151	150	3
R78	ERD16TJ101	100	1
R79-88	ERD16TJ103	10k	10
R89	ERD16TJ104	100k	3
R90,91	ERD16TJ124	120k	2
R92,93	ERD16TJ223	22k	2
R94	ERD16TJ103	10k	1
R95	ERD16TJ223	22k	1
R96	ERD16TJ103	10k	1
R97	Not Used		
R98,99	ERD16TJ103	10k	2
R100	ERD16TJ683	68k	1
R101	ERD16TJ103	10k	1
R102	ERD16TJ103	10k	1
R103-	ERD16TJ102	1k	4
R106			
R107	ERD16TJ103	10k	1
R108	ERD16TJ103	10k	1
R109	ERD16TJ471	470	1
R110	ERD16TJ472	4.7k	1
R111	ERD16TJ223	22k	1
R112	ERD16TJ683	68k	1
R113	ERD16TJ471	470	1
R114	ERD16TJ472	4.7k	1
R115	ERD16TJ223	22k	1
R116-	ERD16TJ103	10k	4
R119			
R120-	ERD16TJ223	22k	3
R122			
R123-	ERD16TJ103	10k	18
R140			
R141-	ERD16TJ102	1k	6
R146			
R147-	ERD16TJ103	10k	6
R152			
R153-	ERD16TJ102	1k	4
R156			
R157-	ERD16TJ103	10k	3
R159			
R160-	ERD16TJ183	18k	4
R163			
R164	ERD16TJ103	10k	1
R165	ERD16TJ184	18k	1
R166	ERD16TJ183	18k	1
R167	ERD16TJ394	390k	1
R168	ERD16TJ103	10k	1
R169	ERD16TJ183	18k	1
R170	ERD16TJ103	10k	1
R171	ERD16TJ333	33k	1
R172-	ERD16TJ103	10k	4
R175			
R176	ERD16TJ154	150k	1
R177	ERD16TJ105	1M	1
R178	ERD16TJ223	22k	1
R179	ERD16TJ223	22k	1
R180	ERD16TJ472	4.7k	1
R181	ERD16TJ104	100k	1
R182	ERD16TJ333	33k	1
R183	ERD16TJ334	330k	1
R184	ERD16TJ104	100k	1
R185	ERD16TJ333	33k	1
R186	ERD16TJ334	330k	1
R187	ERD16TJ104	100k	1
R188	ERD16TJ333	33k	1
R189	ERD16TJ334	330k	1
R190-	ERD16TJ103	10k	10
R199			

KX-T123210

Ref. No.	Part No.	Value, Part Name & Description	Pcs	Ref. No.	Part No.	Value, Part Name & Description	Pcs
(CAPACITORS)				CROSS POINT SWITCH BOARD PARTS			
C100	ECEA1HU4R7	4.7	1	PCB3	PQWP3T123210	Cross Point Switch P.C. Board Ass'y (NLA)	1
C101	ECEA1HU100	10	S 1	(ICs)			
C102	Not Used			IC400	PQVIPD71055C	IC	S 1
C103	ECEA1HU100	10	S 1	IC401	PQVIHD7L640P	IC	1
C104	ECEA1HU100	10	1	IC402	PQVIHD7LS04P	IC	1
C105	ECEA1CSS102	1000	1	IC403	PQVIHD7LS08P	IC	1
C106	ECEA1HN3R3S	3.3	1	IC404	AN78L07	IC	1
C107-	ECEA1HU100	10	S 3	IC405	AN79L07	IC	1
C109	Not Used			IC406-	PQVITD62706P	IC	4
C110	ECEA1EU470	47	S 1	IC409			
C111	ECEA1EU470	47	S 1	IC410-	PQVIM402101P	IC	36
C112-	Not Used			IC445			
C119				IC446	Not Used		
C120	ECQV1H104JZ	0.1	1	IC447	PQVIPD22100C	IC	S 1
C121	ECQV1H104JZ	0.1	1	IC448	PQVIPD22100C	IC	S 1
C122	Not Used			IC449	Not Used		
C123	Not Used			IC450	PQVIPD22100C	IC	S 1
C124	ECCD1H150JC	150P	1	IC451	PQVIPD22100C	IC	S 1
C125	ECCD1H150JC	150P	1	IC452	Not Used		
C126	Not Used			IC453-	PQVIPD22100C	IC	S 4
C127	Not Used			IC456			
C128	Not Used			IC457-	Not Used		
C129	ECQM1H472JV	0.0047	1	IC460			
C130	ECFD1C104MD	0.1	1	IC461-	PQVINJM4558D	IC	6
C131	ECQV1H104JZ	0.1	1	IC466			
C132	ECFD1C104MD	0.1	1	IC467	PQVIPD4066BC	IC	1
C133	ECQV1H104JZ	0.1	1	IC468	PQVINJM4558D	IC	1
C134	ECFD1C104MD	0.1	1	IC469	PQVINJM4558D	IC	1
C135	ECQV1H104JZ	0.1	1	(TRANSISTORS)			
C136	Not Used			Q400	2SC2021	Transistor (Si)	1
C137	Not Used			Q401	2SC2878	Transistor (Si)	1
C138	ECFD1C104MD	0.1	1	Q402	DTC124EA	Transistor (Si)	1
C139	ECKD1H103MD	0.01	1	Q403	Not Used	Transistor (Si)	
C140	Not Used			Q404	DTA124EA	Transistor (Si)	1
C141	ECKD1H103MD	0.01	1	(DIODES)			
C142	ECKD1H102KB	0.001	1	D400-	1SS131	Diode (Si)	36
C143	ECKD1H102KB	0.001	1	D435			
C144-	Not Used			D436	MA4047	Diode (Si)	1
C149				D437	MA4047	Diode (Si)	1
C150-	ECKD1H223MD	0.022	4	D438	1SS131	Diode (Si)	1
C153				D439	1SS131	Diode (Si)	1
C154	Not Used			(COMPONENT COMBINATIONS)			
C155	ECKD1H223MD	0.022	1	Z400-	EXBP86103K	Resistor Array	S 4
C156	ECKD1H223MD	0.022	1	Z403			
C157	Not Used			(TRANSFORMER)			
C158-	ECKD1H223MD	0.022	4	T400	ETA14Y85AY	Transformer	1
C161				(RESISTORS)			
C162-	Not Used			R400	ERD16TJ103	10k	1
C165				R401	ERD16TJ103	10k	1
C166-	ECKD1H223MD	0.022	10	R402	Not Used		
C175				R403	ERO16CKF1180	118	1
C176	Not Used			R404-	ERD16TJ103	10k	21
C177	ECEA1EU470	47	S 1	R424			
C178	Not Used			R425-	ERD16TJ472	4.7k	3
C179	ECKD1H223MD	0.022	1	R427			
C180	Not Used			R428	ERD16TJ223	22k	1
C181	ECKD1H223MD	0.022	1	R429	Not Used		
C182	Not Used			R430-	ERO16CKF1180	118	31
C183	ECKD1H223MD	0.022	1	R460			
C184	ECKD1H223MD	0.022	1	R461-	ERO16CKF1021	1.02k	32
C185-	Not Used			R492			
C189				R493-	ERO16CKF1430	143	12
C190	ECKD1H223MD	0.022	1	R504			
C191	ECKD1H223MD	0.022	1	R505-	ERO16CKF1001	1k	12
C192-	Not Used			R516			
C196				(OTHERS)			
C197	ECCD1H150JC	15P	1	1	PQDF996Z	Shaft	2
C198	ECCD1H150JC	15P	1	2	PQUB11Z	Palstic Parts, Latch	2
C199	ECEA1EU470	47	1	3	PQME52Z	Plastic Parts, Stopper	4
				CNA	PQJP14D49Z	Connector, 14P	1
				CN1,2	PQJP45S30Z	Connector, 45P	2

Ref. No.	Part No.	Value	Pcs
R517	ERO16CKF1151	1.15k	1
R518	ERO16CKF1151	1.15k	1
R519	Not Used		
R520	Not Used		
R521	ERO16CKF3401	3.4k	1
R522	ERO16CKF3401	3.4k	1
R523-	ERO16CKF3921	3.92k	5
R527			
R528	ERD16TJ104	100k	1
R529	ERD16TJ223	22k	1
R530	ERD16TJ333	33k	1
R531	ERD16TJ333	33k	1
R532	ERD16TJ102	1k	1
R533	ERD16TJ102	1k	1
R534	ERD16TJ222	2.2k	1
R535	ERD16TJ223	22k	1
R536	ERD16TJ333	33k	1
R537	ERD16TJ222	2.2k	1
R538	ERD16TJ223	22k	1
R539	ERD16TJ333	33k	1
R540	ERD16TJ332	3.3k	1
R541	ERD16TJ472	4.7k	1
R542	ERD16TJ222	2.2k	1
R543	ERD16TJ472	4.7k	1
R544	ERD16TJ334	330k	1
R545	ERD16TJ333	33k	1
R546	ERD16TJ103	10k	1
R547	ERD16TJ153	15k	1
R548	ERD16TJ103	10k	1
R549	ERD16TJ681	680	1
R550	ERD16TJ681	680	1
R551	ERD16TJ332	3.3k	1
R552	ERD16TJ683	68k	1
R553	ERD16TJ823	82k	1
R554	ERD16TJ224	220k	1
R555	ERD16TJ474	470k	1
R556	ERD16TJ563	56k	1
R557	ERD16TJ184	180k	1
R558	ERD16TJ823	82k	1
R559	ERD16TJ683	68k	1
R560	ERD16TJ823	82k	1
R561	ERD16TJ224	220k	1
R562	ERD16TJ823	82k	1
R563	ERD16TJ474	470k	1
R564	ERD16TJ184	180k	1
R565	ERD16TJ563	56k	1
R566-	Not Used		
R569			
R570	ERD16TJ102	1k	1
R571	ERD16TJ102	1k	1
R572-	ERD16TJ104	100k	3
R574			
R575	ERD16TJ332	3.3k	1
R576	ERD16TJ102	1k	1
R577-	Not Used		
R583			
R584	ERD16TJ563	56k	1
R585	Not Used		
R586	ERD16TJ183	18k	1
R587	Not Used		
R588	ERD16TJ103	10k	1
R589	ERD16TJ103	10k	1
		(CAPACITORS)	
C400	Not Used		
C401	Not Used		
C402	ECEA1EU470	47	S 1
C403	ECEA1EU470	47	S 1
C404	ECEA1HU220	22	S 1
C405	ECEA1HU220	22	S 1
C406	ECEA1HN2R2S	2.2	1
C407	ECEA1EU101	100	S 1
C408	Not Used		
C409	ECQM1H222JV	0.0022	1
C410	ECKD1H223MD	0.022	1
C411	Not Used		
C412	Not Used		

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C413	ECKD1H223MD	0.022	1
C414	Not Used		
C415	Not Used		
C416	Not Used		
C417	ECKD1H102KB	0.001	
C418	Not Used		
C419	Not Used		
C420	ECQM1H102JV	0.001	1
C421	ECQM1H102JV	0.001	1
C422-	ECQV1H273JZ	0.027	5
C426			
C427	ECKD1H102KB	0.001	1
C428	ECKD1H332KB	0.0033	1
C429	ECKD1H102KB	0.001	1
C430	ECKD1H332KB	0.0033	1
C431	ECFD1C104MD	0.1	1
C432	ECFD1C104MD	0.1	1
C433	ECKD1H332KB	0.0033	1
C434	ECQV1H333JZ	0.033	1
C435	Not Used		
C436	Not Used		
C437	Not Used		
C438-	ECQM1H222JV	0.0022	4
C441			
C442	ECFD1C104MD	0.1	1
C443	ECQV1H683JZ	0.068	1
C444	ECFD1C104MD	0.1	1
C445	ECQV1H473JZ	0.047	1
C446	Not Used		
C447	ECKD1H223MD	0.022	1
C448	ECKD1H223MD	0.022	1
C449	Not Used		
C450	ECKD1H103MD	0.01	1
C451	ECKD1H223MD	0.022	1
C452	Not Used		
C453-	ECKD1H223MD	0.022	4
C456			
C457	Not Used		
C458-	ECKD1H223MD	0.022	7
C464			
C465	ECEA1CSS102	1000	1
C466-	Not Used		
C469			
C470	ECKD1H102KB	0.001	1
C471	ECKD1H102KB	0.001	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CN3	PQJP45S30Z	Connector, 45P	1
CN4	PQJP90S30Z	Connector, 90P	1
LC (1,2) BOARD PARTS			
PCB4	KX-T123270	LC P.C. Board Ass'y (NLA) (Supply by business route)	2
		(ICs)	
IC300	PQVI671152F	IC	1
IC301	PQVIHD7LS08P	IC	1
IC302	PQVIHD7LS08P	IC	1
IC303	PQVIHD7L640P	IC	1
IC304	PQVIHD7LS04P	IC	1
IC305	PQVIHD7L244P	IC	1
		(TRANSISTORS)	
Q300A-	2SA937	Transistor (Si)	8
Q300H			
Q301A-	2SB909M	Transistor (Si)	S 8
Q301H			
Q302A-	2SD1225M	Transistor (Si)	S 8
Q302H			

KX-T123210

Ref. No.	Part No.	Part Name & Description	Pcs	Ref. No.	Part No.	Value, Part Name and Description	Pcs
Q303A-Q303H, Q304A-Q304H, Q305A-Q305H Q306A-Q306H Q307A-Q307H Q308A-Q308H Q309A-Q309H Q310A-Q310H	2SC2021	Transistor (Si)	24			(COMPONENT COMBINATIONS)	
Q311A	UN1122	Transistor (Si)	8	Z300	EXBP88472K	Resistor Array S	1
Q311B	DTC124EA	Transistor (Si)	8	Z301	PQRS8B8102J	Resistor Array	1
Q312A	Not Used			Z302	EXBP84103K	Resistor Array S	1
Q312B	Not Used					(PHOTO ELECTRIC TRANSDUCERS)	
	Not Used			PC	PQVIPC817K	Photo Coupler	8
	Not Used			300A-PC			
	Not Used			300H			
	DTC124EA	Transistor (Si)	1			(CRYSTAL OSCILLATOR)	
	DTC124EA	Transistor (Si)	1	X300	PQVCX4000N8Z	Crystal Oscillator	1
	DTA124EA	Transistor (Si)	1			(TRANSFORMERS)	
	DTA124EA	Transistor (Si)	1	T300A-T300H	ETA14Y85AY	Transformer	8
				T301A-T301H	ETE13K38AY	Transformer	8
		(DIODES)					
D300A-D300H, D301A-D301H	MA4047	Diode (Si)	16			(COILS)	
D302A-D302H, D303A-D303H, D304A-D304H	1SS131	Diode (Si)	8	L300A-L300H, L301A-L301H,	PQLQZM2R2M	Choke Coil	16
D305A-D305H	Not Used					(RELAYS)	
D306A-D306H	1SS131	Diode (Si)	8	RLY	PQSL41A		8
D307A-D307H	MA4056	Diode (Si)	8	30A-RLY			
D308A-D308H, D309A-D309H, D310A-D310H, D311A-D311H, D312A-D312H	1SS131	Diode (Si)	43	30H			
D313, D314A, D314B				RLY31A	PQSL49Z		1
				RLY31B	PQSL49Z		1
						(RESISTORS)	
				R300A-R300H	ERD16TJ330	33	8
				R301A-R301H	ERD16TJ220	22	8
				R302A-R302H, R303A-R303H	ERD16TJ682	6.8k	16
				R304A-R304H	ERD16TJ220	22	8
				R305A-R305H	ERD16TJ330	33	8
				R306A-R306H	PQRD2TJ102	1k	8
				R307A-R307H	ERD16TJ153	15k	8
				R308A-R308H	ERD16TJ123	12k	8
				R309A-R309H	ERD16TJ101	100	8
				R310A-R310H	ERD16TJ473	47k	8
				R311A-R311H, R312A-R312H	ERD16TJ121	120	16
				R313A-R313H	ERD16TJ222	2.2k	8
				R314A-R314H	ERD16TJ221	220	8
				R315A-R315H	ERD16TJ472	4.7k	8
ZNR 30A-ZNR 30H, ZNR 31A-ZNR 31H, ZNR32, ZNR33	ERZC03DK241	(VARISTORS) Varistor	18				
PHT 30A-PHT 30H	PQRPAR8R2M	(THERMISTORS) Thermistor	8				

Ref. No.	Part No.	Value, Part Name & Description	Pcs
R316A- R316H, R317	ERD16TJ103	10k	9
R318	Not Used		
R319	ERD16TJ472	4.7k	1
R320	Not Used		
R321	ERD16TJ472	4.7k	1
R322	Not Used		
R323	ERD16TJ103	10k	1
R324	Not Used		
R325	Not Used		
R326	ERD16TJ105	1M	1
R327- R331	ERD16TJ103	10k	5
(CAPACITORS)			
C301A- C301H	ECEA1HU3R3	3.3 S	8
C302A- C302H	ECEA1HU2R2	2.2	8
C303A- C303H	ECEA1HU3R3	3.3 S	8
C304A- C304H	ECEA1HN4R7S	4.7	8
C305A- C305H, C306A- C306H	ECEA1HU010	1	16
C307A- C307H, C308A- C308H	ECKD1H103MD	0.01	16
C309	ECCD1H221J	220P	1
C310	ECEA1HU100	10	1
C311	Not Used		
C312	Not Used		
C313	ECKD1H223MD	0.022	1
C314	Not Used		
C315	Not Used		
C316	Not Used		
C317	PQCBC1C103MY	0.01	1
C318	ECEA1EU101	100	1
C319	Not Used		
C320	ECEA1EU470	47 S	1
C321	ECEA1EU101	100	1
C322	ECEA1EU101	100	1
C323	Not Used		
C324	Not Used		
C325	ECCD1H220JC	22P	1
C326	ECCD1H220JC	22P	1
C327A- C327H, C328A- C328H	ECKD1H471KB	470P	16
(OTHERS)			
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CNA	PQJS50Q30Z	Socket, 50P	1
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connector, 45P	1

Ref. No.	Part No.	Part Name & Description	Pcs
CO-1 BOARD PARTS			
PCB5	KX-T123280	CO-1 P.C. Board Assy (NLA) (Supply by business route)	1
(ICs)			
IC200A- IC200D, IC201A- IC201D IC202A- IC202D	PQVINJM4558D	IC	8
IC203	PQVINJ7301D	IC	4
IC204	PQVIBU 3149	IC	1
IC205	PQVI672191F	IC	1
IC206	PQVIHD7L640P	IC	1
IC207	PQVIHD7LS08P	IC	1
(TRANSISTORS)			
Q200A- Q200D Q201A- Q201D Q202A- Q202D, Q203A- Q203D Q204A- Q204D	2SC2590	Transistor (Si) ⚠	4
	Not Used		
	DTC124EA	Transistor (Si)	12
(DIODES)			
D201A- D201D D202A- D202D D203A- D203D D204A- D204D, D205A- D205D D206A- D206D D207A- D207D D208A- D208D D209A- D209D, D210A- D210D, D211A- D211D, D212A- D212D D213A- D213D D214A- D214D, D215A- D215D, D216A- D216D	MA4150	Diode (Si) ⚠	4
	Not Used		
	PQVDS1YB40F1	Diode (Si) ⚠	4
	MA4047	Diode (Si)	8
	1SS131	Diode (Si)	4
	Not Used		
	PQVDSV03YSW	Diode (Si) ⚠	4
	1SS131	Diode (Si) ⚠	16
	Not Used		
	1SS131	Diode (Si)	12
(PHOTO ELECTRIC TRANSDUCERS)			
PC 200A- PC 200D PC 201A- PC 201D	PQVIPC817K	Photo Coupler ⚠	4
	PQVITLP521	Photo Coupler ⚠	4

KX-T123210

Ref. No.	Part No.	Value, Part Name & Description	Pcs
ZNR 20A- ZNR 20D, ZNR 21A- ZNR 21D ZNR 22A- ZNR 22D	PQVDDSS401M	(VARISTORS) Varistor	8
X201	PQVBFC3584A1	(CERAMIC FILTER) Ceramic Filter	1
RLY 20A- RLY 20D RLY 21A- RLY 21D RLY 22A- RLY 22D	PQSL34Z	(RELAYS) Relay	4
	PQSL63Z	Relay	4
	PQSL41Z	Relay	4
T200A- T200D	ETA14Y85AY	(TRANSFORMERS) Transformer	4
L200A- L200D, L202A- L202D L201A- L201D, L203A- L203D L204A- L204D, L205A- L205D	PQLQZL101K	(COILS) Choke Coil	8
	PQLQZK100K	Choke Coil	8
	PQLQZK220K	Choke Coil	8
R200A- R200D R201A- R201D R202A- R202D R203A- R203D R204A- R204D R205A- R205D R206A- R206D R207A- R207D R208A- R208D R209A- R209D R210A- R210D, R211A- R211D	ERD16TJ151	(RESISTORS) 150	4
	ERDS1TJ223	22k	4
	ERDS2TJ102	1k	4
	ERD16TJ5R6	5.6	4
	ERD16TJ822	8.2k	4
	ERD25TJ330	33	4
	ERD16TJ473	47	4
	ERD16TJ472	4.7k	4
	ERD16TJ473	47	4
	Not Used		
	ERO16CKF1211	1.21k	8
R212A- R212D, R213A- R213D R214A- R214D R215A- R215D, R216A- R216D R217A- R217D R218A- R218D R219A- R219D R220A- R220D, R221A- R221D R222A- R222D R223A- R223D, R224A- R224D, R225A- R225D, R226A- R226D R227A- R227D R228A- R228D R229A- R229D R230A- R230D R231A- R231D R232A- R232D R233A- R233D R234A- R234D R235A- R235D R236A- R236D R237A- R237D R238A- R238D R239A- R239D R240 R241 R242 R243 R244 R245A- R245D R246 R247- R250 R251 R252 R253A- R253D, R254 R255 R256 R257 R258 R259 R260	ERO16CKF1003	100k	8
	Not Used		
	ERO16CKF1003	100k	8
	Not Used		
	ERO16CKF2613	261k	4
	ERD16TJ102	1k	4
	ERO16CKF1211	1.21k	8
	Not Used		
	ERO16CKF1003	100k	16
	Not Used		
	ERO16CKF2613	261k	4
	ERD16TJ391	390	4
	ERD16TJ152	1.5k	4
	Not Used		
	ERD16TJ471	470	4
	ERD16TJ122	1.2k	4
	Not Used		
	ERD16TJ471	470	4
	ERD16TJ122	1.2k	4
	ERD16TJ105	1M	4
	Not Used		
	ERD16TJ102	1k	4
	Not Used		
	Not Used		
	ERD16TJ472	4.7k	1
	ERD16TJ105	1M	4
	ERD16TJ103	10k	1
	ERD16TJ223	22k	4
	Not Used		
	ERD16TJ101	100	1
	ERD16TJ105	1M	1
	ERD16TJ103	10k	6
	Not Used		
	Not Used		
	Not Used		
	ERD16TJ102	1k	1
	Not Used		
	ERD16TJ470	47	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs
R261	ERD16TJ184	180k	1
		(CAPACITORS)	
C200A-C200D	ECQE1104KN	0.1	4
C201A-C201D	ECQE2474KS	0.47	4
C202A-C202D, C203A-C203D	ECEA1HU220	22	8
C204A-C204D	ECQV1H104JZ	0.1	4
C205A-C205D	ECEA1HU220	22	4
C206A-C206D	ECKD1H102KB	0.001	4
C207A-C207D, C208A-C208D	ECFD1E683MD	0.068	8
C209A-C209D, C210A-C210D	ECDD1H560KC	56P	8
C211A-C211D	ECFD1E333MD	0.033	4
C212A-C212D	Not Used		
C213A-C213D	ECFD1E183MD	0.018	4
C214A-C214D	Not Used		
C215A-C215D	ECFD1E183MD	0.018	4
C216	Not Used		
C217	ECKD1H223MD	0.022	1
C218	Not Used		
C219	ECKD1H223MD	0.022	1
C220	ECKD1H223MD	0.022	1
C221	ECKD1H223MD	0.022	1
C222	ECKD1H103MD	0.01	1
C223	Not Used		
C224	Not Used		
C225A-C225D	ECKDKC222KB	0.0022	4
C226	ECEA1EU101	100	1
C227	Not Used		
C228	ECEA1EU470	47	1
C229	ECEA1EU470	47	1
C230	ECEA1EU101	100	1
C231	ECEA1CSS102	1000	1
C232	Not Used		
C233-C237	Not Used		
C238A-C238D	ECKD1H103MD	0.01	4
C239	ECEA1HU100	10	1
		(OTHERS)	
1	PQDF996Z	Shaft	2
2	PQUB11Z	Plastic Parts, Latch	2
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connectro, 45P	1
MJ1-4	PQJJ1TA11Z	Jack	4

Ref. No.	Part No.	Part Name & Description	Pcs
CO-2 BOARD PARTS			
PCB6	KX-T123281	CO-2 P.C. Board Ass'y (NLA) (Supply by business route)	1
		(ICs)	
IC200A-IC200B, IC201A-IC201B	PQVINJM4558D	IC	4
IC202A	PQVINJ7301D	IC	1
IC202B	PQVINJ7301D	IC	1
IC203	PQVIBU3149	IC	1
IC204	PQVI672191F	IC	1
IC205	PQVIHD7L640P	IC	1
IC206	PQVISN7LS08N	IC	1
IC207	PQVIHD7LS04P	IC	1
		(TRANSISTORS)	
Q200A	2SC2590	Transistor (Si)	1
Q200B	2SC2590	Transistor (Si)	1
Q201A	Not Used		
Q201B	Not Used		
Q202A, Q202B, Q203A, Q203B, Q204A, Q204B	DTC124EA	Transistor (Si)	6
		(DIODES)	
D201A	MA4150	Diode (Si)	1
D201B	MA4150	Diode (Si)	1
D202A	Not Used		
D202B	Not Used		
D203A	PQVDS1YB40F1	Diode (Si)	1
D203B	PQVDS1YB40F1	Diode (Si)	1
D204A, D204B, D205A, D205B	MA4047	Diode (Si)	4
D206A	1SS131	Diode (Si)	1
D206B	1SS131	Diode (Si)	1
D207A	Not Used		
D207B	Not Used		
D208A	PQVDSV03YSW	Diode (Si)	1
D208B	PQVDSV03YSW	Diode (Si)	1
D209A, D209B, D210A, D210B, D211A, D211B, D212A, D212B	1SS131	Diode (Si)	8
D213A	Not Used		
D213B	Not Used		
D214A, D214B, D215A, D215B, D216A, D216B	1SS131	Diode (Si)	6
		(CERAMIC FILTER)	
X201	PQVBFC3584A1	Ceramic Filter	1
		(PHOTO ELECTRIC TRANSDUCERS)	
PC200A	PQVIPC817K	Photo Coupler	1
PC200B	PQVIPC817K	Photo Coupler	1
PC201A	PQVILP521	Photo Coupler	1
PC201B	PQVILP521	Photo Coupler	1

Ref. No.	Part No.	Value, Part Name & Description	Pcs	Ref. No.	Part No.	Value	Pcs
ZNR20A	PQVDDSS401M	(VARISTORS) Varistor	4	R220A,	ERO16CKF1211	1.21k	4
ZNR20B				R220B,			
ZNR21A				R221A,			
ZNR21B				R221B			
ZNR22A	ERZC07DK820	Varistor	1	R222A	Not Used		
ZNR22B	ERZC07DK820	Varistor	1	R222B	Not Used		
			1	R223A,	ERO16CKF1003	100k	8
				R223B,			
		((RELAYS)		R224A,			
RLY20A	PQSL34Z	Relay	1	R224B,			
RLY20B	PQSL34Z	Relay	1	R225A,			
RLY21A	PQSL63Z	Relay	1	R225B,			
RLY21B	PQSL63Z	Relay	1	R226A,			
RLY22A	PQSL41Z	Relay	1	R226B			
RLY22B	PQSL41Z	Relay	1	R227A	Not Used		
				R227B	Not Used		
		(TRANSFORMERS)		R228A	ERO16CKF2613	261k	1
T200A	ETA14Y85AY	Transformer	1	R228B	ERO16CKF2613	261k	1
T200B	ETA14Y85AY	Transformer	1	R229A	ERD16TJ391	390	1
				R229B	ERD16TJ391	390	1
		(COILS)		R230A	ERD16TJ152	1.5k	1
L200A,	PQLQZL101K	Choke Coil	4	R230B	ERD16TJ152	1.5k	1
L200B,				R231A	Not Used		
L202A,				R231B	Not Used		
L202B				R232A	ERD16TJ471	470	1
L201A,	PQLQZK100K	Choke Coil	4	R232B	ERD16TJ471	470	1
L201B,				R233A	ERD16TJ122	1.2k	1
L203A,				R233B	ERD16TJ122	1.2k	1
L203B				R234A	Not Used		
L204A,	PQLQZK220K	Choke Coil	4	R234B	Not Used		
L204B,				R235A	ERD16TJ471	470	1
L205A,				R235B	ERD16TJ471	470	1
L205B				R236A	ERD16TJ122	1.2k	1
				R236B	ERD16TJ122	1.2k	1
		(RESISTORS)		R237A	ERD16TJ105	1M	1
R200A	ERD16TJ151	150	1	R237B	ERD16TJ105	1M	1
R200B	ERD16TJ151	150	1	R239A	ERD16TJ102	1k	1
R201A	ERDS1TJ223	22k	1	R239B	ERD16TJ102	1k	1
R201B	ERDS1TJ223	22k	1	R240A	Not Used		
R202A	ERDS2TJ102	1k	1	R240B	Not Used		
R202B	ERDS2TJ102	1k	1	R241A	Not Used		
R203A	ERD16TJ5R6	5.6	1	R241B	Not Used		
R203B	ERD16TJ5R6	5.6	1	R242A	Not Used		
R204A	ERD16TJ822	8.2k	1	R242B	Not Used		
R204B	ERD16TJ822	8.2k	1	R243	ERD16TJ472	4.7k	1
R205A	ERD25TJ330	33	1	R244	Not Used		
R205B	ERD25TJ330	33	1	R245A	ERD16TJ105	1M	1
R206A	ERD16TJ473	47k	1	R245B	ERD16TJ105	1M	1
R206B	ERD16TJ473	47k	1	R246	ERD16TJ103	10k	1
R207A	ERD16TJ472	4.7k	1	R247,	ERD16TJ223	22k	4
R207B	ERD16TJ472	4.7k	1	R248,			
R208A	ERD16TJ473	47k	1	R249,			
R208B	ERD16TJ473	47k	1	R250			
R209A	Not Used			R251	ERD16TJ101	100	1
R209B	Not Used			R252	ERD16TJ105	1M	1
R210A,	ERO16CKF1211	1.21k	4	R253A	ERD16TJ103	10k	4
R210B,				R253B,			
R211A,				R254,			
R211B				R255			
R212A,	ERO16CKF1003	100k	4	R256	ERD16TJ223	22k	1
R212B,				R257	ERD16TJ223	22k	1
R213A,				R258	ERD16TJ102	1k	1
R213B,				R259	Not Used		
R214A	Not Used			R260	ERD25TJ470	47	1
R214B	Not Used			R261	ERD16TJ184	180k	1
R215A,	ERO16CKF1003	100k	4				
R215B,							
R216A,							
R216B							
R217A	Not Used						
R217B	Not Used						
R218A	ERO16CKF2613	261k	1				
R218B	ERO16CKF2613	261k	1				
R219A	ERD16TJ102	1k	1				
R219B	ERD16TJ102	1k	1				

Ref. No.	Part No.	Value, Part Name & Description	Pcs
C204B	ECQV1H104JZ	0.1	1
C205A	ECEA1HU220	22	1
C205B	ECEA1HU220	22	1
C206A	ECKD1H102KB	0.001	1
C206B	ECKD1H102KB	0.001	1
C207A, C207B, C208A, C208B	ECFD1E683MD	0.068	4
C209A, C209B, C210A, C210B	ECCD1H560KC	56P	4
C211A	ECFD1E333MD	0.033	1
C211B	ECFD1E333MD	0.033	1
C212A	Not Used		
C212B	Not Used		
C213A	ECFD1E183MD	0.018	1
C213B	ECFD1E183MD	0.018	1
C214A	Not Used		
C214B	Not Used		
C215A	ECFD1E183MD	0.018	1
C215B	ECFD1E183MD	0.018	1
C216	Not Used		
C217	ECKD1H223MD	0.022	1
C218	Not Used		
C219, C220, C221	ECKD1H223MD	0.022	3
C222	ECKD1H103MD	0.01	1
C223	Not Used		
C224	Not Used		
C225A	ECKDKC222KB	0.0022	1
C225B	ECKDKC222KB	0.0022	1
C226	ECEA1EU101	100	1
C227	Not Used		
C228, C229	ECEA1EU470	47	2
C230	ECEA1EU101	100	1
C231	ECEA1CSS102	1000	1
C232- C237	Not Used		
C238A	ECKD1H103MD	0.01	1
C238B	ECKD1H103MD	0.01	1
C239	ECEA1HU100	10	1
C240A	ECKDKC222KB	0.0022	1
C240B	ECKDKC222KB	0.0022	1
1	PQDF996Z	(OTHERS) Shaft	2
2	PQHR9200Z	Spacer	1
3	PQUB11Z	Latch	2
CNB	PQJP8S30Z	Connector, 8P	1
CNC	PQJP45S30Z	Connector, 45P	1
MJ1,2	PQJ1TA11Z	Jack, Telephone	2
POWER BOARD PARTS			
PCB7	PQWP7T123210	Power P.C. Board Ass'y (NLA)	1
Q50	2SC2673	(TRANSISTORS) Transistor (Si)	1
Q51	2SB1015	Transistor (Si)	1
Q52	2SA881	Transistor (Si)	1
Q53	2SD1406	Transistor (Si)	1
D50,51	PQVDS3V10LF	(DIODES) Diode (Si)	2
D52,53, D54	1SS131	Diode (Si)	3
D55,56	PQVDS3V10LF	Diode (Si)	2
D57,58	1SR35-200	Diode (Si)	2
LED1-3	LN28RPL	LED	3

Ref. No.	Part No.	Value, Part Name & Description	Pcs
ZNR50	PQVDDSS401M	(VARISTOR) Varistor	1
R50	ERD16TJ823	(RESISTORS) 82k	1
R51	ERD16TJ103	10k	1
R52	PQRD1VJ1R0	1	1
R53	ERDS1TJ181	180	1
R54,55	ERDS1TJ151	150	2
R56	ERDS1TJ181	180	1
R57	ERD16TJ103	10k	1
R58	PQRD1VJ1R0	1	1
R59	ERD16TJ103	10k	1
R60	ERD16TJ104	100k	1
R61	ERDS1TJ101	100	1
R62	ERD16TJ562	5.6k	1
R63	ERD16TJ822	8.2k	1
R64	ERD16TJ272	2.7k	1
C50	ECET35S153SW	(CAPACITORS) 15000	1
C51	Not Used		
C52	EECW0HS105Z	1	1
C53	ECEA1AU222	2200	1
C54	ECKD1H102KB	0.01	1
C55	ECEA1VU101	100	1
CN17	PQJP5D30Z	(OTHERS) Connector, 5P	1
CN18	PQJP6D30Z	Connector, 6P	1
CN19	PQJP10D30Z	Connector, 10P	1
CN50	PQJP8D30Z	Connector, 8P	1
CN51	PQJP4D30Z	Connector, 4P	1
POWER UNIT PARTS			
PCB8	PQLP005Z	Power Unit (NLA)	1
IC101	PQVIHA16664	(ICs) IC	1
IC102	PQVIMB3761M	IC	1
IC201	PQVIL5431	IC	1
IC202, IC203, IC204	PQVIR3M02	IC	3
IC205	AN6562	IC	3
IC206	PQVIL5431	IC	1
Q101	2SK800	(TRANSISTORS) Transistor (Si)	1
Q102	2SA1015	Transistor (Si)	1
Q103	2SA1015	Transistor (Si)	1
Q104	2SC1815	Transistor (Si)	1
Q105	2SC2021	Transistor (Si)	1
Q201	2SA1015	Transistor (Si)	1
Q202	2SA1020	Transistor (Si)	1
Q203	2SC3568	Transistor (Si)	1
Q204	2SC2750	Transistor (Si)	1
Q205	2SB744	Transistor (Si)	1
Q206	2SC1815	Transistor (Si)	1
Q207	2SA1020	Transistor (Si)	1
Q208	2SC3568	Transistor (Si)	1
Q209	2SC1815	Transistor (Si)	1
Q210	DTC143EA	Transistor (Si)	1
Q211	DTC143EA	Transistor (Si)	1
Q212	2SC1815	Transistor (Si)	1

Ref. No.	Part No.	Part Name and Description	Pcs	Ref. No.	Part No.	Value	Pcs
		(DIODES)					
D101	PQVDD5SB60	Diode (Si)	1	R101	ERTD5FFL5R0P	Thermistor	1
D102	PQVD10DF6	Diode (Si)	1	R101	ERTD5FFL5R0P	Thermistor	1
D103	PQVD10DF6	Diode (Si)	1			(CAPACITORS)	
D104	PQVDERA22-02	Diode (Si)	1	C101	ECQU1A224MH	0.22	1
D105	PQVDRD10ESB	Diode (Si)	1	C102	ECKDKC472MF	4700P	1
D106	1SS131	Diode (Si)	1	C103	ECKDKC222KB	2200P	1
D107	Not Used			C104	ECKDKC222KB	2200P	1
D108	PQVDRD18FB	Diode (Si)	1	C105	ECES2DG102Z	1000	1
D109	PQVDRD20JSB	Diode (Si)	1	C106	ECQE6103KF	0.01	1
D110	PQVDS1WB60	Diode (Si)	1	C107	ECKD3A471KBL	470P	1
D111	PQVDRD12JSB	Diode (Si)	1	C108	ECEA1HGA100	10	1
D201	PQVDC25P20F	Diode (Si)	1	C109	ECEA1HG010SK	1	1
D202	PQVD11ES2	Diode (Si)	1	C110	ECQM1H153JV	0.015	1
D203	PQVDF10P04Q	Diode (Si)	1	C111	ECQM1H152JV	0.0015	1
D204	PQVDRD4.3ESB	Diode (Si)	1	C112	ECEA1HGA100	10	1
D205	PQVD11ES2	Diode (Si)	1	C113	ECEA1HGA100	10	1
D206	1SS92		1	C114	ECEA1HGA100	10	1
D207	PQVDF10P20FU	Diode (Si)	1	C115	ECEA1HGA100	10	1
D208	PQVDRD18JSB	Diode (Si)	1	C116	ECEA1HGA100	10	1
D209	PQVD11ES2	Diode (Si)	1	C117	Not Used		
D210	PQVDF10P10Q	Diode (Si)	1	C118	Not Used		
D211	PQVDRD13JSB	Diode (Si)	1	C119	Not Used	3.2	1
D212	PQVD11ES2	Diode (Si)	1	C120	Not Used	3.2	1
D213	PQVDF10P04Q	Diode (Si)	1	C121	ECKDKC472MF	4700P	1
		(PHOTO ELECTRIC TRANSDUCERS)		C122	ECKDKC332KB2	3300P	1
PC101, PC102, PC201	PQVITLP521	Photo Coupler	3	C123	ECKDKC332KB2	3300P	1
		(THYRISTOR)		C124	ECKDKC472MF	4700P	1
SCR201	PQVTAC12DSM	Thyristor	1				
		(VARISTOR)		C200	Not Used		
SA103	ERZC14DK271U	Varister	1	C201	ECKD3A102KBN	1000P	1
		(COILS & TRANSFORMERS)		C202	ECKD3A471KBL	470P	1
L101	PQLE9008Z	Choke Coil	1	C203	ECEA1EG332S	3300	1
L102	PQLE9009Z	Choke Coil	1	C204	ECEA1HG010SK	1	1
L103	PQLE9007Z	Choke Coil	1	C205	ECEA1EG332S	3300	1
L201	PQLE9006Z	Choke Coil	1	C206	ECQM1H104JV	0.1	1
L202	PQLE9005Z	Choke Coil	1	C207	ECEA1HG010SK	1	1
L203	PQLE9003Z	Choke Coil	1	C208	ECEA1HGA100	10	1
L204	PQLE9006Z	Choke Coil	1	C209	ECQM1H473JV	0.047	1
L205	PQLE9002Z	Choke Coil	1	C210	ECQM1H153JV	0.015	1
L206	PQLE9004Z	Choke Coil	1	C211	ECQM1H102JV	0.001	1
L207	PQLE9003Z	Choke Coil	1	C212	ECEA1AG222K	2200	1
L208	PQLE9001Z	Choke Coil	1	C213	ECQM1H104JV	0.1	1
T101	PQLT9002Z	Switching Transformer	1	C214	ECEA1AG222K	2200	1
T201	PQLT9001Z	Drive Transformer	1	C215	ECEA1HGA100	10	1
		(VARIABLE RESISTORS)		C216	ECQM1H473JV	0.047	1
VR101	EVM38GA00B54	Semi-Fixed, 50k Ω (B)	S 1	C217	ECQM1H104JV	0.1	1
VR201	EVM38GA00B53	Semi-Fixed, 5k Ω (B)	S 1	C218	ECEA1HG4R7SK	4.7	1
VR202	EVM38GA00B13	Semi-Fixed, 1k Ω (B)	S 1	C219	ECQM1H104JV	0.1	1
VR203	PQN9002Z	Semi-Fixed, 1k Ω (B)	1	C220	ECQM1H104JV	0.1	1
VR204	PQN9001Z	Semi-Fixed, 2k Ω (B)	1	C221	ECQM1H102JV	0.001	1
		(OTHERS)		C222	ECEA1EGA222	2200	1
CR119	PQVDMGC4R3R2	Component Combination	1	C223	ECEA1EGA222	2200	1
CR120	PQVDMGC4R3R2	Component Combination	1	C224	ECEA1EGA222	2200	1
SW101	EST15302T	Switch, Power	1	C225	ECEA1HG010SK	1	1
RL201	PQSL9001Z	Relay	1	C226	ECEA1HGA100	10	1
F101	XBA1C50NU100	Fuse, 5A, 125V	1	C227	ECQM1H473JV	0.047	1
F201	XBA1C100NU10	Fuse, 10A, 125V	1	C228	ECQM1H102JV	0.001	1
CN1	PQJS9002Z	Connector, 8P	1	C229	ECEA1EGA222	2200	1
CN2	PQJS9001Z	Connector, 4P	1	C230	ECQM1H104JV	0.1	1
100	PQJA9003Z	AC Cord	1	C231	ECEA1EGA222	2200	1
101	PQHR104Z	Clamper, AC Cord	1	C232	ECEA1HGA100	10	1
102	RHR993Z	Band	4	C233	ECQE1474KF	0.47	1
				C234	ECKDKC222KB	2200P	1
				C235	ECQM1H103JV	0.01	1
						(RESISTORS)	
				R103	ERD2TJ473	47k	1
				R104	ERD2TJ104	100k	1
				R105	ERDS1TJ220	22	1
				R106	ERD2TJ100	10	1
				R107	ERD16TJ683	68k	1
				R108	ERD16TJ103	10k	1
				R109	ERD16TJ472	4.7k	1
				R110	ERD16TJ102	1k	1
				R111	ERD16TJ221	220	1

Ref. No.	Part No.	Value	Pcs
R112	ERD16TJ103	10k	1
R113	ERD16TJ222	2.2k	1
R114	ERD16TJ333	33k	1
R115	ERD16TJ471	470	1
R116	ERD16TJ103	10k	1
R117	ERDS1TJ101	100	1
R118	ERD2TJ683	68k	1
R119	ERDS1TJ913	91k	1
R120	ERD16TJ122	1.2k	1
R121	ERD16TJ331	330	1
R122	ERD16TJ473	47k	1
R123	ERD16TJ103	10k	1
R124	ERD16TJ103	10k	1
R201	ERD1TJ220	22	1
R202	ERD1TJ100	10	1
R203	ERD16TJ102	1k	1
R204	ERD16TJ183	18k	1
R205	ERD16TJ222	2.2k	1
R206	ERD16TJ561	560	1
R207	ERD16TJ471	470	1
R208	ERD16TJ102	1k	1
R209	ERD16TJ223	22k	1
R210	ERD16TJ104	100k	1
R211	ERD16TJ103	10k	1
R212	ERD16TJ103	10k	1
R213	ERD16TJ104	100k	1
R214	ERD16TJ682	6.8k	1
R215	ERD16TJ103	10k	1
R216	ERD16TJ332	3.3k	1
R217	ERD16TJ680	68	1
R218	ERD1TJ102	1k	1
R219	ERD16TJ100	10	1
R220	ERD16TJ470	47	1
R221	ERD16TJ102	1k	1
R222	ERF2AJR05	0.05	1
R223	ERD16TJ681	680	1
R224	ERD16TJ183	18k	1
R225	ERD16TJ682	6.8k	1
R226	ERD16TJ562	5.6k	1
R227	ERD16TJ101	100	1
R228	Not Used		
R229	Not Used		
R230	Not Used		
R231	Not Used		
R232	ERD16TJ103	10k	1
R233	ERD16TJ103	10k	1
R234	ERD16TJ222	2.2k	1
R235	Not Used		
R236	ERD16TJ104	100k	1
R237	ERD16TJ682	6.8k	1
R238	ERD16TJ273	27k	1
R239	ERD16TJ103	10k	1
R240	ERD16TJ183	18k	1
R241	ERD1TJ102	1k	1
R242	ERDS1TJ101	100	1
R243	ERD3TJ3R3	3.3	1
R244	ERDS1TJ150	15	1
R245	ERD16TJ470	47	1
R246	ERD16TJ102	1k	1
R247	ERD16TJ821	820	1
R248	ERD16TJ104	100k	1
R249	ERD16TJ103	10k	1
R250	ERD16TJ103	10k	1
R251	ERD16TJ104	100k	1
R252	ERD16TJ682	6.8k	1
R253	ERD16TJ103	10k	1
R254	ERD16TJ680	68	1
R255	ERD1TJ102	1k	1
R256	ERD16TJ100	10	1
R257	ERD16TJ470	47	1
R258	ERD16TJ332	3.3k	1
R259	ERF2AJR05	0.05	1
R260	ERD16TJ122	1.2k	1
R261	ERD16TJ223	22k	1
R262	ERD16TJ103	10k	1
R263	ERD16TJ222	2.2k	1

Ref. No.	Part No.	Value	Pcs
R264	ERD16TJ470	47	1
R265	ERD16TJ471	470	1
R266	ERD16TJ471	470	1
R267	ERD16TJ471	470	1
R268	ERD16TJ472	4.7k	1
R269	ERD16TJ102	1k	1
R270	ERD16TJ153	15k	1
R271	ERD16TJ102	1k	1
R272	ERD16TJ271	270	1
R273	Not Used		
R274	ERD16TJ152	1.5k	1
R275	ERDS1TJ152	1.5k	1
R276	ERD16TJ104	100k	1
R277	ERD16TJ682	6.8k	1
R278	ERD16TJ102	1k	1